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The Beauty Myth: Prescriptive Beauty Norms for Women Reflect Hierarchy-Enhancing Motivations Leading to Discriminatory Employment Practices

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We proposed that the Prescriptive Beauty Norm (PBN), the injunctive demand for women to intensively pursue beauty, reflects motives to maintain gender hierarchy and translates into employment discrimination. In Studies 1a and 1b, the PBN (distinct from other "beauty myth" [Wolf, 1990] components; namely, bodily and grooming standards, and attainability beliefs) uniquely correlated with hierarchysupporting values and ideologies. In Study 2, experimentally threatening (vs. affirming) gender hierarchy increased PBN endorsement among sexist (but not nonsexist) participants, an effect mediated by power values. In Studies 3 and 4, participants who scored high (vs. low) in sexism (Study 3) and social dominance orientation (Study 4) enforced higher appearance requirements for women in powerful (vs. entry-level), masculine professions. This "beauty tax" targeted women more than men (Study 3) and was mediated by PBN endorsement (Study 4). Illustrating real-life implications, in an organizational setting (Study 5), sexism predicted penalizing "insufficiently groomed" female candidates more for high-power (vs. low-power) jobs. Finally, supporting the hypothesis that the PBN represents a contemporary, subtle replacement for traditional hierarchy-maintaining ideologies that have lost their influence in modern secular society, Social Dominance Orientation (SDO) correlated with PBN endorsement among secular more than among religious respondents (Study 6), whose "ideological arsenal" contains more straightforward means to police women. We discuss practical implications for gender equality, as well as theoretical implications for reconciling evolutionary and feminist perspectives on beauty norms.

Keywords: prescriptive beauty norms, sexism, appearance-related bias, gender hierarchy, backlash

Supplemental materials: http://dx.doi.org/10.1037/pspi0000209.supp

From head to toe, every feature of a woman's face, every section of her body, is subject to modification, alteration. This alteration is an ongoing, repetitive process. It is [. . .] the major substance of male–female differentiation, the most immediate physical and psychological reality of being a woman (Dworkin, 1974, p. 114). Do beauty expectations for women represent an attempt to put them "back in their place"? Feminist social critic Naomi Wolf (1990) argued that increased female beauty standards represent a contemporary backlash against women's progress, replacing traditional ideologies (e.g., religious restrictions, fixed gender roles, and idealization of housework) that once functioned to keep women subordinate to men. We developed and empirically tested a theoretical perspective inspired by Wolf's contentions, demonstrating the mediators, moderators, motivations behind, and the practical consequences of beauty prescriptions for women.

Specifically, we argue that only one component of Wolf's beauty myth—social pressure for women to spend considerable

money, time, and effort on attaining beauty (referred to here as the Prescriptive Beauty Norm; PBN) rather than beauty standards per se-reflects sexist, hierarchy-enhancing motives intended to impede women's progress. The studies presented here move well beyond prior research, which has focused on correlations between beauty ideals (e.g., thinness, cosmetic use) and various measures of sexist beliefs (Forbes, Collinsworth, Jobe, Braun, & Wise, 2007; Swami et al., 2010). We demonstrate: (a) that the prescription for women to intensively strive for beauty (i.e., the PBN) and not other beauty myth components (e.g., specific beauty standards) uniquely reflects hierarchy-enhancing motives; (b) a causal link, mediated by power motives, between gender hierarchy threat and PBN endorsement among sexist, dominance oriented individuals; (c) that sexist, dominance oriented individuals use the PBN to precisely target women poised to gain power in masculine domains; and (d) consistent with the idea that the PBN substitutes for traditional beliefs that maintain gender hierarchy, SDO correlated with PBN endorsement for secular, but not for religiously orthodox individuals.

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When and Why Are Beauty Norms Disempowering?

According to Wolf (1990), women's engagement in beauty practices can be pleasurable and empowering, enhancing women's bonds and self-expression (see also Lehrman, 1997). However, when intense social pressure turns pursuing beauty into a mandate

(rather than a freely chosen activity), beauty practices become socially coercive, an obligation women must fulfill or risk being ". . . deemed uncivilized and immoral" (Fredrickson & Roberts, 1997, p. 182). Moreover, as legal scholar Deborah Rhode (2010) noted, beauty prescriptions can intensify appearance-based discrimination, creating barriers to gender equality in the workplace.

Many feminist theorists have argued that intense social pressure to pursue beauty disempowers women (e.g., Bartky, 1990; Brownmiller, 1984; Dworkin, 1974; Freedman, 1986; Jeffreys, 2005; Orbach, 1998). Social psychological research supports these contentions. For example, women led to focus on their appearance showed reduced political activism for gender equality (Calogero, 2013), less assertiveness in cross-gender interactions (Saguy, Quinn, Dovidio, & Pratto, 2010), and diminished math performance (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Gay & Castano, 2010; Gervais, Vescio, & Allen, 2011). Beauty norms may prime observers to evaluate women based on appearances, which can lead them to perceive women as less competent (Heflick & Goldenberg, 2009). Further, striving for beauty taxes women's finances, attention, and time. For example, American women average about .75 hr grooming per day, not including shopping and services, and account for 80-90% of a \$115 billion market for beauty products, reducing their financial resources (Rhode, 2010).

The pressure on women to pursue beauty increased following feminism's "second wave," leading Wolf (1990) to argue that it reflects a subtle backlash against women's increasing power. As women's roles have changed, overtly sexist, traditional ideologies that kept women in restricted roles (e.g., the home rather than paid work) have diminished in Western countries. For example, U.S. Gallup polls show a steady, four decade decline in explicit preferences for a male, rather than a female boss (see Newport & Wilke, 2013) and less resistance to voting for a qualified female presidential candidate (see Streb, Burrell, Frederick, & Genovese, 2008). Nevertheless, more subtle and easily rationalized backlash against women remains (e.g., negative reactions to assertive women compared with similar men; Rudman, Moss-Racusin, Glick, & Phelan, 2012).

Beauty pressures may well represent such a subtle, yet pervasive and powerful form of backlash. When asked in an open-ended format to name traits or characteristics society most values in women, physical attractiveness topped the list, nominated by 35% of U.S. adults (compared with only 11% when asked what society values most in men; Parker, Horowitz, & Stepler, 2017). These values diminish women by treating them as sex objects whose value is determined primarily by appearance (Jeffreys, 2005) and by increasing the beauty tax—the time, effort, and resources women are pressured to devote to appearance maintenance (Rhode, 2010).

Why Women as Well as Men May Endorse the PBN

Ideologies that prescribe women an idealized, socially approved goal to strive for may reinforce gender inequality by directing women toward rewards other than power, which is traditionally reserved for men (e.g., Jackman, 1994). These ideologies, compared with those that overtly demean women, may disarm women's resistance to inequality. For example, Glick et al. (2000, 2004) have shown that, across 25 nations, women (compared with men) less strongly endorse hostile sexism (that overtly demeans

women), but often endorse benevolent sexism (that subtly promotes inequality by idealizing women as caregivers and romantic objects) as much or more than men. Becker and Wright (2011) showed that priming hostile sexism increased, whereas priming benevolent sexism diminished women's willingness to take collective action. The PBN, like benevolent sexism, prescribes women to pursue a socially desirable attribute (i.e., beauty) associated with their traditional, lower power role, promising rewards for achieving this attribute (e.g., being sexually desirable; Bartky, 2002). As such, the PBN may gain women's adherence even though it reinforces gender hierarchy.

At a societal level, Jackman (1994) argues that patriarchies typically reinforce gendered power differences by defining arbitrary beauty practices for women, setting up reward contingencies in which beauty increases marriageability to a man with status and resources. These rewards motivate women to internalize the desire to strive for beauty, for themselves and loved ones (e.g., mothers enforcing beauty standards for daughters), even when beauty practices threaten health and well-being. As Jackman notes, for centuries Chinese mothers enforced foot-binding on their daughters—a painful, bone-displacing practice leaving them unable to walk without assistance—to increase marriageability. Extreme beauty practices in the West range from yesterday's corsets (that displaced internal organs) to today's quest for thinness (that can lead to eating disorders) or high heeled shoes (that can cause orthopedic damage; see Jeffreys, 2005).

Although the PBN reinforces gender inequality at the societal level, individual women who attain beauty reap real rewards, such as attracting mates with greater resources (Hill, Rodeheffer, Griskevicius, Durante, & White, 2012) or creating a favorable impression in the workplace (Netchaeva & Rees, 2016). These rewards (and corresponding social punishment for failing to comply; e.g., Maranto & Stenoien, 2000) keep women invested in pursuing beauty, whether via internalized beliefs or strategic behavior (e.g., women who wear makeup because they fear being judged harshly for failing to do so).

Jackman's argument suggests that even though the PBN represents a hierarchy-enhancing ideology, not just men but "... many women embrace it with enthusiasm" (Bartky, 1990, p. 36). The APA Task Force report on the sexualization of girls (Zurbriggen et al., 2007) noted that girls as well as boys, mothers as well as fathers, and female as well as male celebrities, perpetuate beliefs that girls should prioritize physical attractiveness as a central goal. Mothers and female peers actively enforce prioritizing beauty; for example, White mothers routinely engage in "fat talk" about their own and their daughters' bodies (Nichter, 2000), and girls often police each other to ensure conformity to standards of thinness and sexiness (Eder, Evans, & Parker, 1995). Similarly, research on backlash against women who fail to conform to gender expectations (e.g., self-promoting or dominant women) typically finds equally strong backlash from female and male perceivers (Rudman et al., 2012).

More generally, social psychological research has shown that even members of disadvantaged groups are motivated to justify existing group-based hierarchies (Jost & Banaji, 1994) and act in ways that reinforce these hierarchies (Sidanius & Pratto, 1999). Heterosexual men's and women's interdependence for sexual and reproductive needs (Guttentag & Secord, 1983) further promotes cooperation and desire to avoid open intergroup conflict between

women and men (Glick & Fiske, 1996; Jackman, 1994), which may make women especially susceptible to behaving in ways that subtly perpetuate the existing gender hierarchy. Therefore, we suggest that women and men would have similar backlash responses, in terms of (a) endorsement of the PBN in response to threats to gender hierarchy, and (b) enforcement of a higher beauty tax on women in dominant positions.

All studies reported here included female and male participants. Ten comparisons across both correlational and experimental studies yielded only two significant average gender differences in the PBN (with women scoring lower than men). More importantly for our hypotheses, men's and women's PBN endorsement correlated similarly with hierarchy-enhancing ideologies and values (Studies 1a and 1b, Study 6), and, in experimental studies (Studies 2–5), participant gender consistently failed to interact with other variables. Therefore, we do not include participant gender as a variable in the analyses presented below.

The PBN as the Hierarchy-Enhancing Component of the Beauty Myth

According to Wolf (1990) "the beauty myth is always actually prescribing behavior and not appearance" (p. 14). In other words, it is not the specific beauty standard but the general social demand to constantly pursue such standards (whether tiny feet, a thin body, or smooth skin) that reinforces gender hierarchy. Nevertheless, the PBN could not exist without beauty standards or the belief that the standards can be attained (or at least approached) by intensive practices. Thus, we distinguish three related "beauty myth" components: (a) beauty ideals, which Toledano (2012) suggests include both "biological," less easily modified, bodily standards (e.g., youth, thinness) and "performed," more malleable, grooming standards (e.g., wearing make-up and high heels); (b) attainability beliefs, believing that beauty ideals can be reached via beauty practices; and (c) the PBN, which prescribes women to intensively strive for and prioritize attainting beauty. Logically, beauty standards and attainability beliefs are necessary but not sufficient for the PBN; they should, therefore, be related to but distinct from PBN endorsement.

To illustrate logical distinctions between each component, as well as how belief in one component may exist without belief in the others, consider the following examples. People may widely endorse a *standard* that only tall men are attractive, judging short men negatively for failing to live up to it. The tall standard may nevertheless be viewed as *unattainable* for naturally short men and could exist without a strong, socially shared *prescriptive norm* that short men should intensively strive to increase their height (e.g., by taking growth hormones). Thus, a beauty standard can exist without perceived attainability or a strong prescription to achieve it.

Similarly, people could endorse a beauty standard and view it as attainable, but not prescribe others to spend considerable time and attention pursuing the standard. For example, one might believe that women look better when wearing make-up (beauty standard) and that all women can learn to apply it effectively (attainability) without believing that women should prioritize doing so on a daily basis (i.e., without endorsing the PBN). As another example, although looking young is a universal beauty standard (Sugiyama, 2005), older people are encouraged in some societies but discour-

aged in others to pursue a youthful look (see, e.g., Schoemann & Branscombe, 2011).

Although we view the PBN as the beauty myth component most directly related to maintaining gender hierarchy, some beauty standards may be inherently sexist because they symbolically reflect and reinforce men's power. For example, high heeled shoes reduce women's mobility and the thin ideal for women (vs. for men to have bulk) reinforces a more powerful appearance for men (e.g., Orbach, 1998). Nevertheless, although some beauty ideals may directly relate to women's subservience (and, therefore, to sexist motives), we argue that the PBN multiplies their hierarchyenhancing effects by demanding constant effort to meet them.

Further, even beauty standards that do not directly diminish women can contribute to hierarchy-enhancement when enforced by a strong PBN. For example, ideals regarding light versus tanned skin have varied across cultures and historical periods (Skinner, Gilbert, & Edwards, 2003). Nevertheless, either ideal can limit women's freedom—prescribing either reduced exposure to daylight or exaggerated efforts to increase exposure to unhealthy levels of solar radiation. As Grabe (2013) argues

"regardless of the cultural prescription (e.g., cut, covered, or scantily clad), women's bodies are subject to cultural requirements that are largely outside of their control [. . .] self-disciplining the body to conform to requirements can put women's psychological and physical liberty and safety at risk" (p. 418).

Like other injunctive norms, the PBN can affect women's behavior even if they do not personally endorse it so long as they believe that others evaluate them accordingly. People "perform" gender to attain social rewards and avoid social punishments (Eagly, Wood, & Diekman, 2000); for example, a woman may claim to "love children" because she knows others will condemn her for confessing a dislike for children or an intention never to have any (Donath, 2015). Similarly, women may strategically comply with beauty norms to achieve romantic, social, and professional success without personally endorsing the PBN (i.e., without thinking "this is the way it should be" and without morally condemning women who choose not to comply with the PBN). In other words, individual women may choose to engage in beauty practices for various reasons, ranging from self-expression (Lehrman, 1997) to trying to advance at work (Netchaeva & Rees, 2016) or attract a romantic partner (Hill et al., 2012). We do not aim here to disentangle these motives or document beauty's many rewards. Rather, we test whether the PBN, as a general attitude about how women "should" be, reflects hierarchy-enhancing motives that translate into appearance-related employment discrimination toward women who threaten gender hierarchy (i.e., women in powerful, traditionally masculine positions).

 $^{^1}$ Women scored lower on PBN than men in the Pilot Study, Ms=2.97 vs. $3.22,\,F(1,\,525)=5.42,\,p=.020,\,\eta_p^2=.010,$ and in Study 4, Ms=2.32 vs. $2.72,\,F(1,116)=5.06,\,p=.026,\,\eta_p^2=.042.$ However, no significant gender differences occurred in Study 1a, Study 1b, Study 2, and Study 6 (ps<.103). We found no gender differences in required beauty investment for female employees (Study 3) or in penalizing "insufficiently groomed" female job candidates (Study 5) for both high-power or low-power roles (ps<.468). 2 Results are available upon request from the authors, or can be calcu-

² Results are available upon request from the authors, or can be calculated directly from the data files.

The PBN's Relationship to Evolutionary and Feminist Theories

Conceptualizing the PBN and ideal beauty standards as distinct beauty myth components can help to reconcile apparently competing claims about beauty norms by feminist and evolutionary theorists. Evolutionary theorists suggest that evolved preferences determine specific beauty standards for women that indicate fertility and genetic fitness (e.g., universal male preference for a low female waist to hip ratio; Singh & Singh, 2011). Male preferences for certain female features enhance men's fitness because specific beauty standards (e.g., youthful appearance; Sugiyama, 2005) reliably indicate women's "mate value" (i.e., their potential to promote a man's reproductive success). Engagement in assessing women's beauty is posited to enhance women's fitness by guiding decisions about whether or not to compete with another woman over potential mates (Sugiyama, 2005). This theorizing has led evolutionary theorists to conclude that "the main elements of the beauty myth are not myths" (Gottschall et al., 2008, p. 12). By contrast, feminist perspectives, cast beauty standards as social constructions designed to restrict women (e.g., Orbach, 1998; Wolf, 1990).

If, however, the core feminist beauty myth contention concerns the PBN (rather than specific beauty ideals) as an oppressive norm, feminist and evolutionary views may not be mutually exclusive. To illustrate, even if a male preference for large female breasts was naturally selected (Sugiyama, 2005; but cf. Swami & Tovée, 2013), intensive encouragement for women to augment their breasts through plastic surgery may still reflect a socially constructed norm that disempowers women (Jeffreys, 2005). Further, the cultural pervasiveness and strength of such social pressures could vary (e.g., in response to threats to gender hierarchy; Wolf, 1990).

Similarly, recognizing the distinction between beauty's attainability and the PBN may help disentangle competing feminist views about whether beauty practices liberate women (e.g., by allowing self-expression and sexual agency; Lehrman, 1997) or disempower them (e.g., Bartky, 2002). These debates tend to focus more on attainability, rather than the PBN. Attainability beliefs may have both disempowering consequences (e.g., increased appearance anxiety and perceived need for cosmetic surgery; Burkley et al., 2014; see also Franzoi, 2001) and empowering consequences (e.g., increasing efficacy of attractiveness-enhancing efforts; Hill et al., 2012; Netchaeva & Rees, 2016). By contrast, we argue that social demands for intense devotion to achieving beauty (i.e., the PBN) consistently disempower women via internal and external policing.

Overview of Studies

To increase methodological diversity, across the studies reported here we assessed the endorsement and enforcement of prescriptive beauty norms in three ways: (a) a questionnaire explicitly assessing endorsement of a PBN toward women;³ (b) a "beauty tax" dependent measure (applied to both female and male targets) assessing the time and resources people believe employees in specific jobs should spend on enhancing appearance; and (c) a hiring penalty measure toward female job candidates described as poorly groomed in a job interview.

We developed the PBN questionnaire measure in a pilot study. Exploratory and confirmatory factor analyses distinguished the PBN (prescription for women to invest substantial resources in attaining beauty) from specific beauty standards (e.g., viewing thinness as an attractive quality for women) and belief in beauty's attainability (e.g., that any woman can be beautiful with the right make-up). Studies 1a and 1b tested whether hierarchy-enhancing motives underlie PBN endorsement by examining whether the PBN (in contrast to other beauty beliefs) uniquely correlates with hierarchy-enhancing ideologies and valuing power. In addition, Study 1b aimed to (a) rule out the desire "to keep the way things are" (i.e., traditionalism) as an alternative explanation, and (b) provide an initial test of whether, consistent with the idea that the PBN replaces traditional justifications for gender hierarchy, traditionalism (i.e., "conservation values"; Schwartz, 1992) fails to correlate with PBN endorsement. Study 2 tested whether the PBN represents backlash (Rudman et al., 2012) by experimentally threatening (vs. affirming) conventional gender roles to determine whether threat increases PBN endorsement, but not endorsement of beauty standards or attainability. Further, we tested moderation (whether only sexist individuals respond to threatened roles with greater PBN endorsement) and mediation (by hierarchy-enhancing

Examining practical implications for workplace discrimination, Study 3 tested the prediction that sexist (more than nonsexist) individuals would impose a higher beauty tax (i.e., demanding greater time and money investment in appearance) on female (more than male) employees in high (more than low) power, masculine jobs. Study 4 tested a full mediational model, examining whether hierarchy-enhancing motives (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) predict greater PBN endorsement, which in turn predicts a higher beauty tax on female employees in high (more than low) power masculine jobs. Study 5 examined whether sexism among people who actually engage, or have previously engaged, in interviewing job candidates predicts greater penalties toward female candidates who show up "insufficiently groomed" to the interview, especially when high-power positions are at stake.

Finally, Study 6 tested the notion that people only use the PBN to enforce gender hierarchy when they do not have recourse to traditional hierarchy-preserving norms to serve this function. Specifically, the three major Abrahamic religions (Judaism, Islam, and Christianity) enforce gender hierarchy in relatively straightforward, overt ways (Gaunt, 2012; Mikołajczak & Pietrzak, 2014; Taşdemir & Sakallı-Uğurlu, 2010). To illustrate, practices endorsed by some Orthodox Jewish sects include requiring women to sit at the back of the bus (Feldheim, 2013) and forbidding women from singing in public (Gross, 2013), explicitly limiting women and excluding them from the public sphere. We hypothesized that SDO would more strongly predict PBN endorsement among sec-

³ Even though various socio-cultural and economic factors (e.g., consumer culture) have increased appearance pressures on men (Rhode, 2010), especially within the gay male community (Michaels, Parent, & Moradi, 2013), girls and women continue to experience much stronger appearance pressure than boys and men (Trautner & Kwan, 2010; Zurbriggen et al., 2007). Hence, our questionnaire focused on the PBN as directed toward women.

ular participants (who lack traditional practices to enforce gender hierarchy), than among Orthodox religious participants.

Protocols and data files for all studies are available as online supplemental materials or upon request from the authors. In studies for which data collection occurred in two waves, we provide a variable that indicates whether the observation was collected in the first or second wave.

Pilot Study: Defining and Measuring the PBN

Conceptually and empirically distinguishing the beauty myth's components represents a necessary first step before testing whether PBN endorsement uniquely reflects hierarchy-enhancing motives and motivates discrimination. We developed a 12-item beauty myth questionnaire to assess endorsement of: (a) Beauty standards: common Western beauty ideals, including bodily attributes (youth, thinness) and grooming practices (e.g., manicured fingernails); (b) Attainability: belief that women can attain beauty via various practices; and (c) the PBN: belief that women should intensively invest time and resources to pursuing beauty. See Table 1 for items. Although we expected positive correlations between all beauty myth components, we hypothesized they would constitute separate constructs.

Our PBN measure differs from existing beauty-related attitude measures. Body image researchers have focused on self-directed, internalized appearance ideals (e.g., Schaefer et al., 2015) and self-objectification (e.g., Noll & Fredrickson, 1998). These differ from endorsing a general social norm or value that women should strive to achieve beauty. Similarly, Swami and Voracek (2013) measured heterosexual men's internalized appearance ideals for women, but not whether they view it as imperative for women to pursue these ideals. Swami et al.'s (2010) cosmetic use measure (e.g., "Women should apply facial cosmetics every day") overlaps the PBN, but focuses solely on cosmetic use. We aimed to assess a broader construct, not predicated on specific beauty practices, prescribing women to pursue beauty. Conceptually, our PBN measure bears similarity to the earlier Attitudes toward Women Scale (Spence, Helmreich, & Stapp, 1973) that tapped prescriptions about how women "should" be. However, instead of prescribing traditional housekeeping and child rearing duties, our PBN items prescribe women's "beauty duties." Further, to minimize socially desirable responding, the PBN statements were mildly worded and intended to not seem obviously sexist.

Method

Participants

Participants were 527 Israeli (unpaid) volunteers (157 men and 370 women; $M_{\rm age}=31$, range = 18–75) recruited through a research firm, the Midgam Panel, for an online questionnaire. The Midgam Panel recruits participants via search engine ads (mainly Google) and various websites, as well as through other panelists who receive rewards for recruiting new participants. Any panelist could participate (with were no limitations on the sample's composition). We did not use an a priori analysis to determine sample size. While we acknowledge the complexity of determining sample size for factor analysis (MacCallum, Widaman, Zhang, & Hong, 1999), Comrey and Lee's (1992) rules of thumb suggest the obtained sample size was "fair" to

Table 1 Factor Loadings for the Exploratory Factor Analysis of the Beauty Myth Scale (Pilot Study)

Item	Factor 1: PBN	Factor 2: Bodily-related standards	Factor 3: Attainability beliefs	Factor 4: Grooming standards
Thin women are more attractive than curvy women	.302	.942	.111	.255
Younger women are more attractive than older women	.236	.733	.154	.249
Expression lines and wrinkles make women's face very unappealing	309	.938	.110	.241
Women who wear high heels are more attractive than women who wear flat soles	.422	.320	.389	797.
Women who wear makeup (e.g., lipstick, eyelashes) are more attractive than women who do not wear makeup	.377	.251	.356	.815
Women with manicure (long colored fingernails) are more attractive than women without manicure	.304	.187	.286	.799
Nowadays every woman can be beautiful and attractive (e.g., using makeup, plastic surgery, etc.)	.288	.054	.849	.345
A women who wants to be beautiful and attractive can be so if she invests time, effort and money	.315	.132	.826	.365
Every women can be attractive by paying attention to fashionable outfits and styling	.417	.230	.785	.333
It is important for women to invest a lot of effort in looking attractive	.796	.299	.403	.290
When beauty and comfort considerations contrast (e.g., wearing high heel shoes) beauty considerations should take precedence	.860	.285	.224	.454
Spending money on beauty (e.g., manicure-pedicure, plastic surgery, etc.) is completely justified for women	.831	.258	.385	.376
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Vote. N = 258 participants. Values higher than 0.7 appear in bold.

"good." The study was advertised in the Midgam Panel's online forum and data were collected for 2 weeks (data collection stopped when there were no new sign ups).

Sample demographics were: 303 single participants, 187 married, 35 divorced, and two widowed; 65% did not have children, 8.5% had one child, 13% had two children, 13.5% had three or more children. The vast majority of participants (94.5%) were Jewish (62% secular, 20% traditional, 12% religious, and 6% ultraorthodox), 2.7% atheists, and 2.8% Muslim, Christian or Other. Finally, 17.5% were high-school students, 4% soldiers, 17% college students, 49% had a full time job, and 12.5% were unemployed.

Procedure

Participants were invited to complete a survey about "women's appearance." Following demographic questions, participants responded to the 12-item beauty myth measure on a 1 (completely disagree) to 6 (completely agree) scale. No other measures were included.

Results

Factor analyses tested whether the beauty myth beliefs represent separate components. We divided the sample into two approximately equal subsamples (using the SPSS random sample generator) to allow an exploratory factor analysis (EFA) and an independent confirmatory factor analysis (CFA) to see whether factors replicated.

The Principal Components (EFA) analysis of the first subsample (N=258) yielded four factors with eigenvalues greater than one, accounting for 70.39% of the variance; a scree test also suggested four factors. Because we expected correlated factors, we used a direct Oblimin rotation with Kaiser Normalization. Factor loadings are presented in Table 1, with interfactor correlations in Table 2.

The factors appeared to assess: (a) the *PBN* (belief that women *should* strive to achieve ideal beauty standards), (b) *body attribute standards* (i.e., youth, smooth skin, and thin body), (c) *attainability* (belief that women can attain beauty via beauty practices), and (d) *grooming standards* (e.g., belief that wearing make-up or high heels increases women's attractiveness).

A CFA informed by the EFA results was computed for the second subsample (N=269) using EQS, Version 6 (Bentler, 2002), using variance-covariance matrices. There were no missing

values. Because the variables were multivariately nonnormally distributed, with normalized multivariate kurtosis of 12.31 (p < .001), we used a maximum-likelihood estimation method with robust SEs and a Satorra-Bentler rescaled χ^2 (Satorra & Bentler, 1994) that compensates for nonnormality. The CFA model fit the data well: $\chi^2(48, N = 269) = 103.33, p < .001$, nonnormed fit index (NNFI) = .948, CFI = .962, standardized root mean square residual (SRMR) = .058, and root mean square error of approximation (RMSEA) = .056. All standardized factor loadings were above .56 (with the majority in the .70s). Thus, the CFA replicated the EFA. See Table 2 for means, SDs, and factor correlations.

Discussion

Factor analyses supported the idea that the beauty myth includes related yet distinct beliefs: two types of beauty standards (bodily attributes and grooming), attainability, and the PBN. As noted above, having ideal standards and viewing those standards as attainable are logical prerequisites to believing that women should intensively invest in beauty. Consistent with this view, the PBN correlated with the other beauty myth components, yet remained a distinct factor.

Studies 1a and 1b: The PBN Uniquely Correlates With Hierarchy-Enhancing Ideologies and Values

Studies 1a and 1b examined whether PBN endorsement, compared with other beauty myth components, uniquely (positively) correlates with hierarchy-enhancing ideologies and values, including sexism, social dominance, and power values.

Study 1a examined beauty myth beliefs' correlations with a general preference for social hierarchy (SDO; Pratto et al., 1994), and sexist beliefs (assessed by the Ambivalent Sexism Inventory, ASI; Glick & Fiske, 1996, 2001). SDO measures the desire to maintain a hierarchical, unequal social arrangement that keeps disadvantaged groups "in their place"; it correlates with a wide variety of hierarchy-enhancing beliefs (Sidanius & Pratto, 1999). The ASI assesses benevolent sexism (paternalistically viewing women as pure, fragile creatures whom men ought to protect and provide for) and hostile sexism (viewing women as seeking to control men through sexuality, manipulation, and feminist ideology). Benevolent and hostile sexism represent complementary,

Table 2
Means, (Standard Deviations), and Interfactor Correlations for Exploratory and Confirmatory
Factor Analyses (Pilot Study)

Beauty myth component	M (SD)	(1) 3.03 (1.17)	(2) 4.06 (1.32)	(3) 3.01 (1.27)	(4) 3.77 (1.17)
 (1) Prescriptive beauty norm (2) Bodily-related standards (3) Attainability (4) Grooming standards 	3.06 (1.07) 3.86 (1.35) 3.08 (1.30) 3.82 (1.10)	.36** .40** .54**	.34** .07 .28**	.44** .16* .48**	.48** .31** .46**

Note. N = 258 and 269 participants in the exploratory factor analysis (EFA; first sub-sample) and confirmatory factor analysis (CFA; second sub-sample), respectively. Means and SDs for the first sub-sample appear in the first row and means and SDs for the second sub-sample appear in the first column. Correlations for the first sub-sample appear above the diagonal and correlations for the second sub-sample appear below the diagonal. *p < .05. *** p < .001.

positively correlated components of sexist ideology that jointly function to legitimize and preserve gender hierarchy (Glick & Fiske, 2001); the former by rewarding women for "staying in their place" and the latter by punishing women who fail to do so. If the PBN functions to preserve gender hierarchy, it ought to correlate with both forms of sexism (see also Forbes et al., 2007; Swami et al., 2010).

Study 1b examined the beauty myth components' correlations with (a) the ASI Scales, and (b) the Schwartz Value Survey (SVS; Schwartz, 1992), measuring individual differences in prioritizing 10 core values (i.e., guiding life principles): security, conformity, tradition, benevolence, universalism, self-direction, stimulation, hedonism, achievement, and power. We were especially interested in valuing power for two reasons: (a) power values reflect acceptance of dominance/submission as an organizing principle for social life (Duriez & Van Hiel, 2002; Schwartz, 1996), and (b) prioritizing power correlates with benevolent and hostile sexism for both sexes (Feather, 2004). Thus, Study 1b aimed to directly replicate the beauty myth components' correlations with sexism, and conceptually replicate their correlation with hierarchyenhancing motivations (i.e., power values rather than SDO).

To expect power values to correlate with women's, not just men's, sexism may seem odd because sexist beliefs act to reduce women's power. This sexism-power value link, however, is consistent with theorizing that women who accept sexist ideologies believe they personally benefit from powerful men's protection and provision, giving them a perceived stake in the current hierarchy (Glick & Fiske, 1996, 2001). Indeed, empirical evidence shows that women's belief that men will protect and provide for them acts as a lever that leads women to accept gender inequality and even hostile sexism toward their gender (Sibley, Overall, & Duckitt, 2007). Women (and men) who want women to have greater social power do so because they support universalistic, egalitarian values while rejecting sexist ideology and power as an organizing principle for social life (Feather, 2004).⁴

Studies 1a and 1b also allowed insight into whether the PBN reflects alternative motives, such as antipathy toward women or a preference to maintain tradition. If the PBN reflects antipathy toward women it should correlate with hostile but not benevolent sexism. By contrast, if (as we hypothesize) the PBN reflects desire to maintain gender hierarchy, it should correlate with both types of sexism. We tested this in both Study 1a and 1b. The SVS (used in Study 1b) tested whether the PBN reflects support for hierarchy rather than other values that might motivate preference for the gender status quo, such as traditionalism, security, or conformity ("conservation values," reflecting motivation to keep things the way they are; Schwartz, 1992). Finding that the PBN does not correlate with conservation values would be consistent with our reasoning that (a) PBN specifically stems from the motive to reinforce gender hierarchy, rather than a wish to maintain the status quo, and (b) PBN represents a contemporary, rather than a traditional form of sexist ideology. In summary, we hypothesized that PBN would positively correlate with SDO, hostile and benevolent sexism, and valuing power, but not with conservation values. Moreover, we expected these correlations to persist after controlling for other beauty myth components (i.e., attainability, bodily, and grooming beauty standards). By contrast, we did not expect the other beauty myth components to correlate with SDO, hostile

and benevolent sexism, and power values after controlling for PBN.

Study 1a

Method

Participants. There were 133 Israeli participants (91 women and 42 men, 131 students and two nonstudents, $M_{\rm age}=25.7$, range = 19–54) who were recruited by three undergraduate RAs through snowball sampling to complete a web-based questionnaire in exchange for raffle participation. We did not use an a priori method to determine sample size; however, detecting a medium-sized correlation of r=.30 at a significance level of 5% and power of 80% requires 85 participants. Invitations to participate were advertised via the RAs' mailing lists and data collection stopped when no additional participants signed up. All participants were secular and their native tongue was Hebrew.

Procedure. Participants were invited to take an online survey about "social issues." They completed Hebrew versions of the following measures (no other measures were included).

Social Dominance Orientation (SDO; Pratto et al., 1994). Hebrew version developed by (Levin & Sidanius, 1999). Using a 1 (completely disagree) to 7 (completely agree) scale, participants completed a short version of the SDO-6 Scale.⁵ Four items measured preference for social hierarchy (e.g., "It's probably a good thing that certain groups are at the top and other groups are at the bottom") and four items measured preference for social equality (e.g., "We would have fewer problems if we treated people more equally," reverse scored); $\alpha = .72$.

Ambivalent Sexism Inventory (Glick & Fiske, 1996). Using a 1 (completely disagree) to 6 (completely agree) scale, participants completed a shortened Hebrew ASI (translated by Shnabel, Bar-Anan, Kende, Bareket, & Lazar, 2016). Seven items measured participants' hostile sexism (e.g., "Feminists are seeking for women to have more power than men"), $\alpha = .89$, and seven items measured benevolent sexism (e.g., "In a disaster, women ought to be rescued before men"), $\alpha = .79$.

Beauty myth beliefs (see Table 1 for items). Using a 1 (completely disagree) to 6 (completely agree) scale, participants completed the beauty myth measure used in the Pilot Study, which assessed: beauty standards (both bodily standards, $\alpha = .66$, and grooming standards, $\alpha = .90$); attainability, $\alpha = .81$; and the PBN, $\alpha = .81$.

Results and Discussion.

Table 3 (upper half) presents means, standard deviations, and correlations for all beauty myth components, SDO, and sexist beliefs (separately for female and male participants). Partial correlations tested whether each beauty myth component was associ-

⁴ According to Schwartz's (1992) theorizing "power" and "universalism" represent conflicting motives that are opposite each other. We focused on power, rather than universalism, because the latter includes items (e.g., "unity with nature" and "protection of the environment") that are not relevant to social inequality.

⁵ Because of concern about participant attrition, in some of the studies we used shortened versions of SDO, ASI, and RWA by eliminating repetitive items.

Table 3
Means, (Standard Deviations), and Correlations of Beauty Myth Beliefs With Hierarchy-Enhancing Ideologies and Values (Studies 1a and 1b)

Measures	Women's M (SD)	Men's M (SD)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Study 1a									
(1) SDO	2.93 (.97)	3.40 (.95)	_	.37*	.46*	.01	.34*	.28 [†]	.41*
(2) Hostile sexism	2.49 (1.01)	3.08 (1.29)	.44**	_	.56**	.22	.39*	.31*	.51**
(3) Benevolent sexism	2.81 (1.08)	2.80 (.90)	.28*	.68**	_	.32*	.42*	.25	.47*
(4) Bodily-related standards	3.62 (1.07)	4.31 (.88)	.27*	.44**	.45**	_	.35*	.23	.21
(5) Grooming standards	2.45 (1.37)	1.99 (1.24)	.22*	.47**	.42**	.50**	_	.62**	.68**
(6) Attainability	3.48 (1.28)	3.22 (1.27)	.19 [†]	.35**	.42**	.28*	.59**	_	.61**
(7) Prescriptive beauty norm (PBN)	2.34 (1.02)	2.68 (1.31)	.24*	.54**	.52**	.52**	.64**	.50**	_
Study 1b									
(1) Power prioritizing	2.84 (1.19)	2.95 (1.28)	_	.54*	.37*	.00	.28*	.02	.27*
(2) Hostile sexism	2.85 (1.00)	3.50 (.96)	.21 [†]	_	.45**	.15	.23 [†]	.22	.38*
(3) Benevolent sexism	3.13 (.94)	3.15 (.87)	.19 [†]	.44**	_	.22	.28*	.16	.42**
(4) Bodily-related standards	3.73 (1.06)	4.11 (.98)	.18	.17	.26*	_	.27*	08	.20
(5) Grooming standards	2.99 (1.14)	2.73 (1.26)	.32*	.34*	.26*	.31*	_	.33*	.47**
(6) Attainability	3.79 (1.28)	3.25 (1.24)	.03	.15	$.20^{\dagger}$.10	.29*	_	.34*
(7) Prescriptive beauty norm (PBN)	2.87 (1.16)	2.71 (.96)	.33*	.32*	.37**	.43**	.59**	.40**	

Note. SDO = Social Dominance Orientation; SVS = Schwartz Value Survey. N = 133 participants (91 women; 42 men) in Study 2a (upper section); N = 135 participants (78 women, 57 men) in Study 2b (lower section); power prioritizing score was calculated as the mean of the authority, wealth, social power, and preservation of reputation SVS items. Correlations for female participants appear below the diagonal; correlations for male participants appear above the diagonal. Although the correlations between prioritizing power values and HS and BS separately were only marginally significant among women (ps = .071 and .093, respectively) the correlation between power values and women's overall sexism score was significant, r = .23, p = .039. power prioritizing power values and women's overall sexism score was significant, <math>p = .23, p = .039.

ated with SDO and sexism after controlling for the other three components. As seen in Table 4 (upper half), consistent with predictions, only the PBN uniquely correlated with all three hierarchy-supporting measures—SDO, hostile sexism, and benevolent sexism. As expected, grooming standards and attainability beliefs did not correlate with SDO or sexism after controlling for the PBN. Unexpectedly, bodily standards correlated with hostile and benevolent sexism after controlling for the PBN; however, these results failed to replicate in Study 1b.

Study 1b

Method

Participants. There were 135 participants (78 women and 57 men, 81 students and 54 nonstudents, $M_{\text{age}} = 27.7$, range =

23–33) who were recruited through the same online research firm used for the Pilot Study, to take an online questionnaire. Participation was voluntary, without payment or reward. We did not use an a priori analysis to determine sample size; however, detecting a medium-sized correlation of r=.30 at a significance level of 5% and power of 80% requires 85 participants. Data collection stopped when no additional participants signed up. All participants were secular. For the vast majority of participants (N=119) Hebrew was their native tongue (14 Russian; two other).

Procedure. Participants completed the Hebrew version of the following measures (no other measures were included).

Ambivalent Sexism Inventory (Glick & Fiske, 1996). Participants completed the full (22 item) Hebrew ASI, measuring hostile sexism, $\alpha = .85$, and benevolent sexism, $\alpha = .76$.

Schwartz Value Survey (SVS; Schwartz, 1992). The SVS consists of 46 items, each presents a life goal accompanied by a

Table 4
Partial Correlations Between Each of the Beauty Myth Components and Social Dominance
Orientation, Sexist Ideologies, and Power Values (Studies 1a and 1b)

Measures	Bodily standards	Grooming standards	Attainability	PBN
Study 1a ^a				
Social dominance orientation	.13	02	.04	.19*
Hostile sexism	.22*	.03	.01	.36**
Benevolence sexism	.22*	.08	.11	.24*
Study 1b ^b				
Prioritizing power	03	.19*	14	.20*
Hostile sexism	.10	.09	02	.17*
Benevolence sexism	.13	.05	.05	.24*

Note. PBN = prescriptive beauty norm.

 $^{^{\}rm a}N=133$ participants in Study 1a. $^{\rm b}N=135$ participants in Study 1b.

^{*} p < .05. ** p < .001.

short descriptive phrase, for example, "social power (control over others, dominance)." Participants rated each item's importance as a guiding principle in their lives using a 9-point scale ranging from -1 (opposed to my values) to 7 (of supreme importance), with 0 as a neutral response (not important). The four items measuring power values (i.e., authority, wealth, social power, and preservation of reputation) had somewhat low reliability, $\alpha = .60$ (Feather [2004] reports $\alpha = .72$). Nevertheless, because the measure has been extensively validated across multiple samples in diverse nations (Schwartz, 1992), this relatively low reliability should not impede its use (see Schmitt, 1996).

Beauty myth beliefs. We used same measure as in Study 1a: bodily standards, $\alpha = .75$; grooming standards, $\alpha = .83$; attainability, $\alpha = .78$; and the PBN, $\alpha = .79$.

Results

Main analysis. Table 3 (lower half) presents means, standard deviations, and correlations of beauty myth beliefs with power values, and hostile and benevolent sexism for female and male participants. As in Study 1a, partial correlations tested whether each beauty myth component was uniquely associated with power values and sexism after controlling for the other components. Table 4 (lower half) shows that after controlling for other beauty myth components, as hypothesized, the PBN uniquely correlated with all three hierarchy-enhancing measures: power values, hostile sexism, and benevolent sexism. By contrast, after controlling for the PBN, the other beauty myth components failed to correlate with power values or sexism, with one exception: grooming standards remained correlated with power values.

Power versus other values. The SVS allowed us to examine whether besides power values the PBN relates also to "conservation values" (Schwartz, 1992), such as traditionalism. The PBN did not significantly correlate with security (i.e., safety and social stability, r = .16, p = .065), conformity (i.e., obeying social norms, r = -.01, p = .956), or tradition (i.e., commitment to traditional customs and ideas, r = -.03, p = .698). Further, the PBN failed to correlate with benevolence (enhancing the welfare of people with whom one is in frequent personal contact, r = -.07, p = .434), universalism (tolerance and protection for the welfare of all, r = -.14, p = .095), self-direction (independent thought and action, r = -.08, p = .389), stimulation (excitement and challenge in life, r = -.03, p = .723), hedonism (pleasure and sensuous gratification, r = .13, p = .127), or achievement (personal success, r = .03, p = .723). All partial correlations between the PBN and these nine values, controlling for other beauty myth components, failed to reach significance (all ps > .11).

Discussion

Across Studies 1a and 1b, when controlling for its relationship to other beauty myth components, the PBN still consistently correlated with a general preference for hierarchy (SDO), sexist beliefs (both benevolent and hostile), and prioritizing power as a guiding value. By contrast, the other beauty myth components failed (with a few exceptions that were not consistent across the two studies) to correlate with social dominance, hostile and benevolent sexism, and power values. Results support the notion that PBN endorsement, but not attainability beliefs or beauty standards per se, reflect hierarchy-enhancing motivations.

In both Studies 1a and 1b the PBN correlated not only with hostile but also benevolent sexism (even after controlling for hostile sexism, rs = .24, ps < .01). This suggests that the PBN does not reflect antipathy toward women, but rather a common feature of both types of sexism: support for gender hierarchy. Indeed, antipathy represents a less plausible motive than hierarchypreservation because both men and women have more favorable attitudes toward and stereotypes about women than men (the "women are wonderful" effect; Eagly & Mladinic, 1994). Finally, the PBN was not associated with "conservation values"—security, conformity, and tradition (Schwartz, 1992). This finding is consistent with hierarchy rather than social stability as the PBN's underlying motivation (further tested in Study 4) and with the idea that the PBN (as a subtle, contemporary mechanism for controlling women) replaces more traditional ways of doing so (further tested in Study 6).

Study 2

Study 2 moved beyond a correlational approach to experimentally test the backlash hypothesis. If the PBN reflects a desire to keep women "in their place," PBN endorsement should increase when gender roles, which maintain power differences (Glick & Fiske, 2001), are challenged. Study 2 used a person by situation approach, predicting that challenges to gender roles would increase PBN endorsement among those most motivated to preserve gender hierarchy—sexist individuals. By contrast, the threat manipulation and its interaction with participants' sexism were not expected to affect endorsement of other beauty myth components (i.e., attainability, standards).

We used participants' total ASI score in Studies 2 and 3, averaging hostile and benevolent sexism, to yield a reliable overall sexism measure (Glick & Fiske, 1996, 2001). Theoretically, ambivalent sexism reflects a coordinated "carrot and stick" approach (Glick & Fiske, 2001); benevolent sexism rewards women with affection if they comply with conventional gender roles and hierarchy, whereas hostile sexism directs hostility toward those who challenge them. Similarly, beauty norms rely on rewards such as popularity, marriage opportunity, and economic benefits (Margolin & White, 1987; Unger, 1979) for women who comply with their role as "the fairer sex," while punishing those who fail to do so (e.g., overweight women; Maranto & Stenoien, 2000). Thus, hostile and benevolent sexism should operate similarly as moderators and were, therefore, averaged. Supporting this logic, Studies 1a and 1b showed that both hostile and benevolent sexism positively predicted the PBN.6

Besides testing whether a challenge to gender roles increased sexist individuals' PBN endorsement, Study 2 explored whether this effect was mediated by prioritizing power values. Specifically, threat to one's long- or short-term aspirations activates pursuit of goals intended to remove the threat (Carver & Scheier, 1998). For example, several studies (e.g., Kay et al., 2009; Kay, Jost, & Young, 2005) have demonstrated that system threat activates system-defense motives and values that increase endorsement of system-justifying ideologies. Illustrating this process, Brescoll,

⁶ We generally found similar results when BS and HS were examined separately; results are available upon request from the authors, or can be calculated directly from the data files.

Uhlmann, and Newman (2013) exposed participants to a system threat, which activated a system-justifying goal: to see gender differences as immutable (and, therefore, justified and fair). Immutability beliefs, in turn, predicted greater endorsement of essentialist ideology about gender differences.

As illustrated in Figure 1, we hypothesized that threats to gender hierarchy would activate hierarchy-preserving goals, values, and strategies among individuals most invested in maintaining the hierarchy. In particular, a threat to current gender roles (that maintain gender hierarchy; Glick & Fiske, 2001) should activate power (i.e., hierarchy-enhancing) values among sexist individuals (i.e., those most invested in preserving the hierarchy). Once activated, these goals (i.e., power values-viewing dominance/submission as an organizing principle for social life) should lead to stronger PBN endorsement (if PBN functions to reinforce gender hierarchy). Thus, we predicted a conditional indirect effect (Preacher, Rucker, & Hayes, 2007) such that sexist, more than nonsexist, participants would show increased prioritizing of power values in the threat (compared with no-threat) condition. Prioritizing of power values, in turn, was expected to lead to PBN endorsement. Observing an indirect effect of threat on sexists' PBN endorsement through increased power values would support our contention that PBN endorsement reflects a backlash designed to put women "back in their place."

Method

Participants. Participants were recruited through Panel 4U, a different research firm than we used in the Pilot Study and Study 1b (to minimize risk of overlap in participants). Participants were invited to take an online study of "social issues" in exchange for payment. Data was collected in two waves. Initial sample size was determined based on a Pilot Study (N = 72), in which the results were in the predicted direction and indicated a medium size interaction effect, f = .25. A power analysis, using the G*Power calculator (Faul, Erdfelder, Buchner, & Lang, 2009), revealed that for a significance level of $\alpha = .05$, and power of 80%, we needed at least 179 participants. After collecting data from 181 participants, we found that the Threat × Sexism interaction on PBN was in the predicted direction yet only marginally significant—leading us to collect data from 100 additional participants (50 participants per cell). A post hoc power analysis revealed that we had 82% power to detect the observed interaction in the full sample. In line with Sagarin, Ambler, and Lee's (2014) recommendations, we

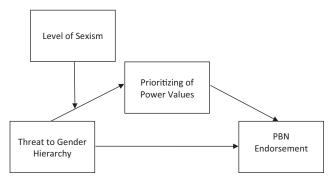


Figure 1. The conceptual path model tested in Study 2.

report the key results for both the initial and full samples, as well as the $p_{\rm augmented}$ statistic (that represents the magnitude of the Type I error inflation resulting from post hoc data augmentation).

The final sample included 173 women and 108 men, $M_{\rm age} = 27.05$ years, range = 22–33; 61% of the participants were students, and the rest were employed in various occupations (e.g., teaching, accounting, and engineering). All participants were secular; native tongue was Hebrew for 271 participants (seven Russian; three other); 45% were single, 25% in a relationship, 29% married, and the rest had another status.

Procedure. Participants were invited to take part in an online survey about "relations between men and women in our society." Before the study began, participants completed an attention check (i.e., the Instructional Manipulation Check; Oppenheimer, Meyvis, & Davidenko, 2009). Only participants who passed the attention check took part in the study. Participants first completed the Hebrew version of the ASI (Glick & Fiske, 1996); $\alpha = .91$. Next, participants were randomly assigned to the threat or no-threat conditions. In the threat condition, participants read an article suggesting that changing gender roles would lead men and women to increasingly have similar outcomes in the near future, which would put the existing hierarchy at risk. In the no-threat condition, participants read an article suggesting that roles and outcomes for men and women were unlikely to change—implying that existing hierarchical arrangements are secure (i.e., in Social Identity Theory terms, stable and legitimate—hence immutable and certain; Turner & Brown, 1978). Conceptually similar manipulations have been used in other intergroup contexts (e.g., Israeli Arabs and Jews; Nadler & Halabi, 2006) to threaten the stability of power relations between advantaged and disadvantaged groups, leading to defensive responses among people who are motivated to maintain the existing hierarchy (e.g., Nadler, Harpaz-Gorodeisky, & Ben-David, 2009).

Specifically, all participants read that "[f]or the past several decades, government and nongovernmental agencies, as well as academic researchers have gathered data that provide a comprehensive picture of social and cultural trends in gender relations in Israel." Participants assigned to the no-threat condition read an article contending that:

The most striking and consistent findings show a remarkable stability and durability in existing gender differences in terms of social roles, personality traits, behavior, romantic expectations, and of course, physical characteristics . . . these differences are expected to persist in the future

By contrast, participants in the threat condition were exposed to the opposite view:

The most striking and consistent findings show that we are in the midst of a historic shift such that men's and women's roles are converging, causing gender differences once thought to be inherent to fade and even disappear . . . this trend is expected to persist and expand in the future.

As manipulation checks, participants responded to three items testing reading comprehension (e.g., "What is the expectation regarding personality, emotional, and behavioral gender differences in future years?") using a 1 (gender differences are stable and expected to persist) to 5 (gender differences are unstable and expected to disappear) scale; $\alpha = .91$. Additionally, participants

were asked to explain the article's conclusion in their own words to reinforce the manipulation. Our checks focused on participants' understanding of the text, not perceived threat, which participants are unlikely to directly admit (see Brescoll et al., 2013, for a similar approach).

Participants next completed a "survey," allegedly to create their respondent profile, "by taking into account your general worldview as well as your personal opinions and preferences regarding various aspects of the relations between men and women in contemporary society." This survey, which measured our dependent variables, included the 12-item beauty myth questionnaire (bodily standards, $\alpha = .71$; grooming standards, $\alpha = .78$; attainability, $\alpha = .76$; and the PBN, $\alpha = .70$), followed by the SVS (Schwartz, 1992) to assess power values ($\alpha = .60$). We measured the SVS last because writing about one's important values has been shown to buffer against psychological threats (Cohen & Sherman, 2014). Thus, completing the SVS (i.e., affirming guiding values), could have alleviated gender threat and undermined any effects on the PBN. Such reversed order of measures has been used in other social psychological research when the regular mediatordependent variable order is problematic (e.g., Shnabel et al., 2016). No other measures were included. Finally, participants provided demographic information, then were thanked and debriefed.

Results

Table 5 presents means, standard deviations, and correlations between all variables.

Manipulation checks. Supporting the manipulation, participants in the threat condition (M = 4.26, SD = .64) rated the article as suggesting that gender roles are more unstable (i.e., likely to change) than participants in the no-threat condition (M = 1.74, SD = .74), t(279) = 30.46, p < .001.

Main analyses. Four regression analyses tested the effects of participants' sexism (standardized), experimental condition (dummy-coded such that 0 = no threat, 1 = threat), and their two-way interaction (i.e., the product of sexism and condition) on each of the four factors comprising the beauty myth (bodily standards, grooming standards, attainability, and the PBN). Results are presented in Table 6.

As seen in Table 6, in line with our prediction, the Threat \times Sexism interaction was significant for the PBN, but not for other beauty myth components (standards, attainability), as the dependent variable. Generally similar patterns were observed in the initial sample (N=181), in which the Threat \times Sexism interactions on the standards and attainability components were nonsig-

nificant, ps < .169, whereas the interaction on PBN was marginal, $\beta = .173$, p = .087. For the Threat \times Sexism interaction on PBN in the full sample, $p_{\text{augmented}}$ [.0504, .0509]—the low end of the range estimates α under the "best-case scenario" assumption that the second wave of data would not have been collected if the test's p value had been higher than .087; the high end of the range estimates α under the "worst-case scenario" assumption that the second wave of data would have been collected even if p = 1.00 in the first wave. Note that an inevitable ramification of post hoc dataset augmentation is that $p_{\text{augmented}}$ will always exceed .05 (i.e., the value of $p_{\text{augmented}}$ must be larger than critical value for determining significance). Nevertheless, that the results in the full sample were significant and $p_{\text{augmented}}$ indicated little Type I error inflation because of the additional data collection, provides us with sufficient evidence for a confident interpretation (see Sagarin et al., 2014).

We interpreted the Threat \times Sexism interaction on PBN using separate regressions for each condition. As expected, the regression model for the threat condition, F(1, 139) = 50.53, p < .001, revealed that participants' sexism strongly predicted PBN endorsement, $\beta = .516$, t = 7.11, p < .001, whereas in the regression model for the no-threat condition, F(1, 138) = 7.53, p < .008, participants' sexism predicted PBN endorsement less strongly, $\beta = .227$, t = 2.74, p = .007.

As an alternative way to interpret this interaction, we conducted a simple slopes analysis, using Preacher, Curran, and Bauer's (2006) online computational tool for probing two-way interaction effects in multiple linear regression models. This analysis revealed that threat to gender roles increased PBN endorsement among participants relatively high on sexism, Zasi = 1, simple slope = .301, t = 2.13, p = .034. Threat also tended to decrease PBN endorsement among participants with low sexism scores, Zasi = -1, simple slope = -.255, t = -1.80, p = .073, perhaps by activating their feminist, nonsexist values.

Conditional indirect effect. We used Hayes' (2013) PROCESS macro (Model 7), which uses regressions followed by bootstrapping analyses, to test whether hierarchy-enhancing motives underpin PBN endorsement. As seen in the upper part of Table 7, we found a significant Threat \times Sexism interaction on power values. We interpreted this interaction using separate regressions for each condition. As expected, participants' sexism strongly predicted power values in the threat-condition, $\beta = .576$, t = 8.30, p < .001, but not in the no-threat condition, $\beta = .161$, t = 1.92, p = .057. As seen in the middle part of Table 7, prioritizing power values significantly predicted PBN endorsement. Finally, as seen in the

Table 5
Means, Standard Deviations, and Correlations Between Sexism, Power Prioritizing, and the Beauty Myth's Beliefs (Study 2)

Measures	No-threat condition	Threat condition	(1)	(2)	(3)	(4)	(5)	(6)
(1) Sexism (ASI)	3.32 (.76)	3.27 (.76)	_					
(2) Power prioritizing	2.98 (1.12)	3.02 (1.20)	.37**					
(3) Bodily-related standards	3.86 (.94)	3.91 (.94)	.36**	.24**				
(4) Grooming standards	2.92 (1.13)	3.00 (1.06)	.20**	.28**	.20**	_		
(5) Attainability	3.56 (1.03)	3.57 (1.20)	.06	.04	04	.34**	_	
(6) Prescriptive beauty norm (PBN)	2.91 (.90)	2.92 (.96)	.38**	.27**	.32**	.54**	.34**	_

Note. ASI = Ambivalent Sexism Inventory. N = 281.

^{**} p < .01.

Table 6
The Effects of Threat Condition and Participants' Sexism on Endorsement of the Beauty Myth's Beliefs (Study 2)

Regression model	В	SE	β	t	p	LLCI	ULCI
Dependent variable: Bodily-related standards							
Constant	3.86	.074		51.97	.001	3.709	4.001
Threat condition	.070	.105	.037	.67	.505	136	.276
Sexism	.297	.074	.317	4.01	.001	.151	.442
Threat \times Sexism	.078	.105	.059	.74	.459	129	.284
Dependent variable: Grooming standards							
Constant	2.918	.091		32.17	.001	2.739	3.096
Threat condition	.095	.128	.044	.74	.458	157	.347
Sexism	.119	.091	.109	1.32	.190	059	.297
Threat \times Sexism	.205	.128	.132	1.60	.111	047	.458
Dependent variable: Attainability							
Constant	3.554	.095		37.50	.001	3.368	3.741
Threat condition	.018	.134	.008	.14	.893	245	.281
Sexism	.089	.095	.080	.95	.346	097	.276
Threat \times Sexism	046	.134	029	34	.731	310	.218
Dependent variable: Prescriptive beauty norm							
Constant	2.908	.072		40.46	.001	2.766	3.049
Threat condition	.030	.101	.016	.30	.766	169	.230
Sexism	.203	.072	.219	2.83	.005	.061	.344
Threat × Sexism	.294	.102	.224	2.89	.004	.094	.494

Note. CI = confidence interval; LL = lower limit; UL = upper limit. N = 281. The regression model for bodily-related standards as the dependent variable was significant, F(3, 277) = 13.87, p < .001, $\Delta R^2 = .131$; the regression model for grooming standards as the dependent variable was significant, F(3, 277) = 4.95, p = .002, $\Delta R^2 = .051$; the regression model for attainability as the dependent variable was nonsignificant, F(3, 277) < 1, p = .775, $\Delta R^2 = .004$; and the regression model for prescriptive beauty norm (PBN) as the dependent variable was significant, F(3, 277) = 18.51, p < .001, $\Delta R^2 = .167$. The table presents the effects of the three predictors—Threat condition (affirmation vs. threat of the existing gender hierarchy), sexism, and their two-way interaction—in each of the four regression models.

bottom of Table 7, the indirect effect of threat on PBN through power was significant for participants high on sexism. Also, a negative indirect effect of threat on PBN through reduced prioritizing of power values was observed among participants low in sexism. The moderated mediation index was significant, index = .146, 95% confidence interval (CI) [.063, .250], suggesting that the indirect effects of threat condition on PBN via

power values differed for participants with different levels of sexism.

Additional analysis. As in Study 1b, using the SVS allowed us to examine participants' conservation values. Three regression models with threat condition, sexism, and their two-way interaction as predictors and conservation values as the outcome variables, revealed that the Threat × Sexism interaction failed to reach

Table 7

The Conditional Indirect Effect of Threat Condition × Sexism on PBN via Prioritizing of Power Values (Study 2)

Regression model	B	SE	t	p
Outcome variable: Prioritizing of power values				
Constant	2.192	.398	5.510	.001
Threat condition	-2.163	.560	-3.865	.001
Sexism	.237	.117	2.027	.044
Threat \times Sexism	.678	.166	4.092	.001
Outcome variable: PBN				
Constant	2.273	.157	14.517	.001
Prioritizing of power values	.215	.046	4.676	.001
Threat condition	001	.107	010	.992

Conditional indirect effect of the threat condition on PBN through power prioritizing at different levels of sexism

Sexism	Effect	Boot SE	LLCI	ULCI
2.53 (-1 SD below average)	096	.042	185	022
3.29 (average)	.015	.029	036	.079
4.05 (1 SD above average)	.126	.050	.043	.240

Note. PBN = prescriptive beauty norm; CI = confidence interval; LL = lower limit; UL = upper limit. N = 281. Level of confidence = 95%. The experimental condition was coded such that it received the values "1" in the threat-to-gender-hierarchy condition and "0" in the no-threat condition. Bootstrap sample size = 5,000. The regression model with prioritizing of power values as the outcome variable was significant, F(3, 277) = 21.66, p < .001. The regression model with PBN as the outcome variable was significant, F(2, 278) = 10.93, p < .001.

significance for conformity, $\beta=.055$, t=.67, p=.501, and tradition, $\beta=.024$, t=.30, p=.768. Unexpectedly, the interaction effect on security values was significant, $\beta=.158$, t=2.03, p=.044. Nevertheless, security values did not lead, in turn, to greater PBN endorsement: zero was included in the confidence interval for participants whose level of sexism was either low, $Z_{asi}=-1$, 95% CI [-.116, .001], or high, $Z_{asi}=1$, 95% CI [-.005, .094]. These results are consistent with our theorizing that the PBN (a) reflects a hierarchy enhancing motivation, not motivation to keep the way things are, and (b) represents a contemporary ideology aimed at reinforcing gender hierarchy that has replaced and, therefore, is unrelated to, traditional belief systems.

Discussion

In line with our backlash hypothesis, sexist participants exposed to a gender role threat showed increased PBN endorsement. To the best of our knowledge, this is the first experimental evidence supporting a causal relationship between gender role threat and increased prescriptions for women to intensively strive for beauty. The current study extends prior correlational research establishing an association between sexist ideologies and beliefs regarding women's beauty (Forbes et al., 2007; Swami et al., 2010). Moreover, in line with our suggestion that the PBN (rather than attainability beliefs or beauty standards per se) uniquely reflects hierarchy-enhancing motivations, we found that gender role threat only affected endorsement of the PBN, not other beauty myth components.

The latter finding also helps to rule out an alternative explanation to our findings. Specifically, stronger adherence to one's existing worldview is a common response to threats in one's environment (Jonas et al., 2014). If so, the heightened PBN endorsement among sexist participants in the threat condition could reflect their greater adherence to their (sexist) worldview—not their effort to reinforce gender hierarchy per se—and should be observed in response to other types of threats as well (e.g., a security or economic threat). However, the prediction derived from the "adherence to worldview" explanation would be that threatened sexists should also more strongly endorse bodily related standards, as thinness and youth are prominent beauty ideals (e.g., Rhode, 2010) and are especially endorsed by sexist people (Swami et al., 2010). That endorsement of bodily related standards was not influenced by the threat condition is consistent with a specific attempt to restore threatened hierarchy.

Further supporting our theorizing that PBN endorsement reflects a backlash driven by hierarchy-related concerns, the threat manipulation's effect on the PBN was not mediated by conservation values (tradition, conformity or security), but was mediated by power values. Admittedly, we measured, rather than manipulated the mediator, representing a limitation. To allow stronger causal inferences (Spencer, Zanna, & Fong, 2005) about the role power values may play, future research should examine whether experimentally altering participants' prioritizing of power (e.g., via priming; Maio, Pakizeh, Cheung, & Rees, 2009) increases PBN endorsement.

Another weakness is that Study 2's manipulation did not distinguish threat to gender hierarchy from threat to gender roles (and essentialist beliefs about them). We used this particular manipulation because a more direct manipulation, attempted in a pilot study, was not viewed as credible by participants. Specifically, we attempted to manipulate gender hierarchy threat through an article stating that "the

majority of women in the Israeli society define themselves as feminists and reported their intention to act for changing women's status." Participants' responses to an open-ended question indicated that they did not believe the article. Therefore, we created the more subtle threat manipulation used in Study 2.

While one could argue that our manipulation confounds hierarchy and role threats, gender differences in power mainly stem from gendered social roles (Eagly et al., 2000); that is, roles and power are naturally confounded. Still, to address this criticism, Studies 3 and 4 manipulated threat to gender hierarchy while aiming to keep other role related characteristics constant by having participants react to female targets in matched high and low power occupations in the same masculine fields.

A final limitation concerns whether threat to gender roles increased PBN endorsement among sexist participants or role affirmation decreased it in the no-threat condition. We argue that the no-threat condition's suggestion of stability in current gender roles serves as a psychological default (MacMullen, 2011), whereas the threat condition's "historic shift causing gender differences once thought to be inherent to fade" serves as a deviation from this default, initiating a backlash response. However, even if affirming (rather than threatening) existing gender roles reduced sexist individuals' PBN endorsement, this would be consistent with a fluid PBN endorsement that changes in response to the security of gender hierarchy.

Study 3

Study 3 extended and complemented Study 2 in several ways. First, to demonstrate practical implications, we examined appearance-related discrimination toward female targets who challenge gender hierarchy. PBN endorsement represents ideological support for a prescriptive norm, which, in turn, should lead to the enforcing a beauty tax on women (Rhode, 2010). We examined this beauty tax in a workplace context, assessing the degree to which participants thought employees should be required to invest in appearance as an occupational duty. This measure allowed Study 3 to directly compare whether the beauty tax discriminates specifically against women compared with men (i.e., whether the beauty tax represents sex discrimination). Additionally, Study 3 compensated for a weakness in Study 2 by more precisely targeting threat to hierarchy, not roles, by examining reactions to women in high (as compared with low) power positions within the same masculine fields; namely, women who represent a direct threat to gender hierarchy (e.g., Heilman & Okimoto, 2007; Okimoto & Brescoll, 2010; Rudman et al., 2012).

Workplace demands on female employees to comply with appearance-related prescriptions have increased in recent decades, creating obstacles to gender equality (Rhode, 2010). For example, in 2015 El-Al (the national Israeli airline) attempted to require female flight attendants to wear high heels, without correspondingly increasing appearance demands for male attendants (Elis & Pelleg, 2015). According to Wolf (1990), increased appearance demands as occupational requirements, on top of paid work and a "second shift" performing childcare and domestic labor (Hochschild & Machung, 1989), create a "third shift" for women: beauty maintenance. Greater demands for female (compared with male) employees thereby inhibit workplace equality (Kwan & Trautner, 2009; Trautner & Kwan, 2010).

Our backlash hypothesis predicts that women in high-power, traditionally masculine occupations should face especially strong demands to invest in their appearance. This backlash against powerful women should be most (or only) evident among those who are threatened by women in dominant positions, namely sexist individuals. Put differently, sexist individuals should enforce an especially heightened beauty tax on such women. To test this hypothesis, in Study 3, after completing a sexism measure in a prior pretest, participants rated how much employees in 12 masculine occupations should be required to invest in appearance as part of their occupational duties. The occupations included six matched pairs of relatively low and high power occupations (e.g., accounting intern vs. VP of finance).

Occupational power was manipulated within subjects (i.e., each participant evaluated six low and six high power occupations), whereas the target employee's gender was manipulated between-subjects. Thus, participants in the female-target condition evaluated the amount of time and money a generic female employee in each of 12 occupations should invest in her appearance to perform her job (i.e., as an occupational duty), whereas participants in the male-target condition made the same evaluations with regard to a generic male employee. This created a 2 (Gender of Target Employee [male, female]) × 2 (Occupational Power [high, low]) experimental design, with the former a between-subjects and the latter a within-subjects factor. Participants' sexism was examined as a moderator. The enforcement of a beauty tax was measured by how much time and money participants thought employees should spend on appearance as a job duty.

Because employees in leadership or dominant positions represent the "face of the organization," we expected a main effect for occupational power on the beauty tax (more appearance investment demanded from employees in high vs. low power occupations). Because women generally face more appearance pressures than men (Trautner & Kwan, 2010), we also expected an employee gender main effect on the beauty tax (female employees required to make greater appearance investment than male employees). Our backlash hypothesis predicted a three-way occupational Power × Employee's Gender × Participant Sexism interaction. Specifically, sexist (more than nonsexist) participants should demand that female (more than male) employees in high (more than low) power occupations strive harder to maintain an attractive appearance.

Method

Participants. Participants were undergraduate students registered to the subject pool of a large Israeli university. Because of feasibility constraints (i.e., number of students registered in the subject pool), data collection took place in two waves. In both of them, data collection was stopped when there were no new sign ups (i.e., when the participant pool was exhausted). The initial sample included 102 participants, who were recruited in one academic year. While the expected three-way interaction was significant, the study was underpowered (a post hoc power analysis revealed that the power to detect the predicted effect was only .67). Therefore, we carried out another wave of recruitment (N = 104) in the subsequent academic year, resulting in the current sample size of 206 participants (93 women and 113 men, $M_{\rm age} = 26$ years, range = 22–39), who participated in exchange for payment. A post hoc power analysis revealed that for the full sample we had 80%

power to detect the observed interaction. As in Study 2, we report the key results for both the initial and full samples, as well as the $p_{\rm augmented}$ statistic.

Procedure. Participants were recruited for a series of online studies about various social issues. To conceal our purpose and combat demand characteristics, we measured sexism in a pretest a week before the main study. Thus, Study 3 was presented as two, ostensibly unconnected studies. The first assessed participants' sexism using the shortened version of the ASI (Glick & Fiske, 1996) used in Study 1a ($\alpha = .88$). The second, a week later, was presented as a survey about perceptions of different occupations in the Israeli job market. Participants first read about three main parameters for evaluating employees: intelligence (efficient thinking, learning abilities, mental processing, etc.); social skills (interpersonal communication, emotional maturity, trustworthiness, etc.); and presentable appearance ("Hoffa'a Yiztugit," a Hebrew expression commonly used in job ads to denote looks that appropriately represent the company). The latter was said to include general attractiveness, styled hair, clean and ironed clothes, and so forth. Intelligence and social skills were included as filler ratings to conceal the study's purpose.

Participants were randomly assigned to imagine either a female or male job holder. They then received a list of 12 occupations in randomized order, which included matched low-power and high-power occupations within six masculine domains (Shinar, 1975): politics (parliamentary assistant, government minister), natural science (assistant physics teacher, chief scientist in the national infrastructure and energy ministry), insurance (insurance agent, pension fund executive), prison (jail guard, prison warden), municipal system (municipal clerk, mayor) and finance (accounting intern, VP of finance). As a manipulation check for occupational power, participants indicated the social power of employees working in each occupation on a 1 (low) to 7 (high) scale. We computed average power scores for the six low-power occupations ($\alpha = .70$) and the six high-power occupations ($\alpha = .66$).

Participants first responded to filler questions regarding intelligence and interpersonal skills required for each occupation, and then indicated the amount of money (1 = up to 200 NIS, 2 = 400 NIS, 3 = 600 NIS, 4 = 800 NIS, 5 = 1000 NIS, 6 = 1200 NIS, 7 = 1400 NIS and up) and time (1 = up to 5 hr, 2 = 10 hr, 3 = 15 hr, 4 = 20 hr, 5 = 25 hr, 6 = 30 hr, 7 = 35 hr and up) an employee working in each occupation should invest in (his or her) appearance each month as part of their professional duties. We separately averaged participants' evaluations of required time and money investment for the low-power occupations (α = .89) and high-power occupations (α = .92). Finally, participants filled out demographic information (no other measures were included), then were thanked and debriefed.

⁷ A pilot study that did not include this filler task failed to obtain an employee gender main effect, a result inconsistent with the well-documented "beauty bias" (Rhode, 2010). We posit that without the filler items participants detected the study was about gender (not "the Israeli job market") leading to socially desirable responding. Open ended responses at the end of the survey supported this suspicion.

Results

Manipulation check. A paired samples t test revealed that participants rated the high-power occupations (M = 5.91, SD = .63) as having significantly more power than the low-power occupations (M = 3.93, SD = .70), t(202) = 48.43, p < .001 (there were three missing values for the occupational power manipulation check, hence the lower dfs).

Main analysis. To test our main hypothesis, we computed a repeated-measures analysis of covariance with sexism (standardized) as a continuous independent variable; gender of targetemployee (male vs. female) as a between-subjects factor; and occupational power (high vs. low) as a within-subjects factor. As expected, the effect of target employee gender was significant, $F(1, 202) = 18.36, p < .001, \eta_p^2 = .083$; female targets $(M_{low\ power} = 2.67, SD = .91, M_{high\ power} = 3.60, SD = 1.23)$ were generally required to make greater appearance-related investment than male targets ($M_{low\ power} = 2.19$, SD = .79, $M_{high\ power} =$ 3.09, SD = 1.02). Also as expected, occupational power had a significant main effect, F(1, 202) = 525.64, p < .001, $\eta_p^2 = .722$; high power employees (M = 3.35, SD = 1.16) were required to make greater appearance-related investment than low power employees (M = 2.44, SD = .88). Sexism also had a significant main effect, F(1, 202) = 28.78, p < .001, $\eta_p^2 = .125$; sexists generally demanded more appearance-related investment.

The two-way gender of target Employee × Occupational Power interaction was nonsignificant, F < 1, p = .569; the two-way interaction of gender of target employee with participants' sexism was marginal, F = 3.09, p = .080, $\eta_p^2 = .015$; and the Occupational Power × Sexism interaction was significant, F(1, 202) = 16.12, p < .001, $\eta_p^2 = .074$. These interactions were qualified by the expected Sexism × Occupational Power × Gender of target employee three-way interaction, F(1, 202) = 7.88, p = .005, $\eta_p^2 = .038$. This three-way interaction was significant in the original sample (N = 102), F(1, 98) = 6.05, p = .016, $\eta_p^2 = .058$, $p_{\rm augmented}$ [.050, .052].

To determine whether the three-way interaction took the predicted form, we performed a separate repeated-measures analysis for each target gender condition. As expected, for male targets the two-way Sexism \times Occupational Power interaction was nonsignificant, F(1, 98) < 1, that is, participants' sexism did not moderate the effect of occupational power on male employees' required appearance-related investment. By contrast, for femaletargets, the predicted Sexism \times Power interaction was significant, F(1, 104) = 25.73, p < .001, $\eta_p^2 = .198$.

To interpret the two-way interaction, we conducted separate regressions for the low and high power jobs within the female-target condition. The first regression was significant, F(1, 104) = 14.63, p < .001, $R^2 = .123$, revealing that participants' sexism predicted greater required investment from women in low power occupations, $\beta = .351$, p < .001. The second regression was also significant, F(1, 104) = 33.54, p < .001, $R^2 = .244$, revealing that participants' sexism predicted greater required investment from women in high power occupations, $\beta = .494$, p < .001. Thus, sexism generally predicted higher appearance-related demands from female employees. However, the two-way sexism by power interaction in the female-target condition indicates that sexism's association with an intensified beauty tax was significantly stron-

ger when rating women in high (compared with low) power positions.

As an alternative way to interpret the key three-way interaction, we examined the gap between each participant's evaluations of required appearance investment by employees in high minus low power occupations, creating a "power penalty" dependent variable. For conceptual accuracy we use the term beauty tax to denote the absolute value of demand to invest in beauty, and power penalty to denote the increase in beauty tax as a result of climbing up the professional ladder. Using the PROCESS macro (Model 1), we tested how participants' sexism moderated the effect of target employee gender on the power penalty. In line with our theorizing, target employee's gender had no effect for nonsexist participants $(Z_{asi} = -1 SD)$, t = -1.59, p = .114, but was significant for sexist participants ($Z_{asi} = 1$ SD), t = 2.40, p = .017. Thus, as illustrated in Figure 2, whereas nonsexist evaluators enforced a similar power penalty on female and male employees, sexist evaluators imposed a greater power penalty for female than for male employees.

Discussion

Consistent with our backlash hypothesis, Study 3 showed that sexist (more than nonsexist) participants demanded especially high appearance-related investment from female (compared with male) employees in high (vs. low) power positions. In other words, sexists made especially strong, discriminatory beauty investment demands toward precisely those women who most directly threaten gender hierarchy: women in powerful, masculine occupations. A limitation of Study 3 was that our effort to disentangle power from masculinity by manipulating occupational power within professions might be judged as only partially successful. For example, the position of chief scientist in the ministry of energy and infrastructure may be perceived not only as more powerful, but also as more masculine than an assistant physics teacher (even though both are within the traditionally masculine STEM domain). This confounding was inevitable, however, be-

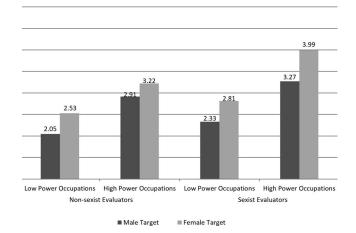


Figure 2. Required "beauty tax" (i.e., appearance-related investment) among sexist and nonsexist evaluators of male versus female target employees in low versus high-power masculine occupations (Study 3). N = 206. For the sake of clarity and easiness of read we used a median split to divide participants into "sexists" and "nonsexists."

cause of the correlation between powerful and masculine jobs in the real-world (see Eagly et al., 2000).

On a practical level, Study 3 suggests that women who seek to be hired or promoted to powerful positions in traditionally masculine occupations may face exceptionally high demands for appearance-related investment. For example, female British Parliament members reported having to chronically monitor their appearance, making it difficult to govern (Puwar, 2004). Complicating matters further, women in high-power jobs have to walk a tightrope in which they do not cross the fine line between well groomed and too sexy, which elicits presumed incompetence (Glick, Larsen, Johnson, & Branstiter, 2005) and backlash (because self-sexualization might be interpreted as an attempt to assert power; Infanger, Rudman, & Sczesny, 2016).

Study 4

Study 4 tested a full mediational model, hierarchy-enhancing motives \rightarrow PBN \rightarrow discriminatory behavior. Although we theorized that the general prescriptive norm that women should pursue beauty (PBN) translates into enforcement of a heightened beauty tax on women who challenge the gender hierarchy, Study 3 did not directly examine the relation between these two constructs. Study 4 included both the PBN self-report measure used in Studies 1–2 and Study 3's beauty tax measure. We investigated the PBN as a mediator beauty tax effects, aiming to show how hierarchy-enhancing motives (measured by the SDO Scale, see below) predict greater endorsement of prescriptions for women to invest in beauty (PBN), which in turn predict discriminatory practices (a beauty tax) against powerful women.

Study 4 also corrected for remaining weaknesses from the prior studies. First, the mild wording of PBN items, intended to minimize social desirability bias, left the measure vulnerable to concerns that it does not assess prescription. For example, people may agree that "it is important for women to invest a lot of effort in looking attractive" not because they see it as a moral imperative, but rather for its practical benefits. Reactions to norm violation represent the best way to distinguish prescriptive from descriptive norms; only the latter lead to moral condemnation (Heilman, 2001). Therefore, we included a new measure assessing moral contempt toward women who fail to invest in attaining beauty (as shameful, disgusting, disrespectful to others, and negligent). If the PBN measures a prescriptive norm, it should strongly correlate with condemning women who violate the norm.

Second, although direct measures of perceived threat would be problematic (because threat may not reach conscious awareness and including such measures might reveal the study's purpose), the failure to measure threat represents a weakness. Therefore, we added an *indirect* measure to assess whether Study 3's manipulation (women in high power positions) induced threat by having participants rate their support for affirmative action policies to increase women's representation in low and high power masculine occupations. We reasoned that participants who feel threatened by powerful women would show reduced support for policies intended to help women penetrate high power, masculine domains.

Third, to more directly demonstrate the PBN's roots in general hierarchy-enhancing motives (not just preservation of the status quo), we measured participants' SDO (Pratto et al., 1994) as well as Right Wing Authoritarianism (RWA; Altemeyer, 1981). Ac-

cording to Duckitt's (2001) dual process model, SDO and RWA—"the strongest individual difference predictors of prejudice"—independently predict prejudices because they are linked to distinct social motives: People high in RWA are traditionalists who value social conformity, security, and order, whereas people high in SDO value power, dominance, and tough-mindedness. Moreover, Sibley, Wilson, and Duckitt (2007) have shown that, in the context of gender relations, SDO reflects desire to subordinate women, whereas RWA reflects desire to maintain traditional, complementary gender roles. Measuring participants' RWA as well as SDO allowed to distinguish between these distinct motives.

Study 4 had two parts. First, we assessed participants' RWA and SDO, as well as PBN endorsement and condemnation of women who fail to invest in appearance. Two weeks later, participants completed an ostensibly unrelated study about the Israeli job market, in which they indicated the amount of time and money that women employed in high versus low power masculine occupations should invest in their appearance as part of their professional duties (the within-participants measure used in Study 3). The gap between investment demands on high versus low power targets represents the power penalty on women who successfully climb the professional ladder. Finally, participants rated support for affirmative action policies to increase women's representation in these occupations (an indirect threat measure).

We tested the following predictions: first, if the PBN measure reflects a prescriptive (rather than descriptive) norm it should correlate with condemnation toward women who neglect appearance. Second, if the PBN reflects hierarchy-enhancing motives, SDO should predict greater PBN endorsement (as it did in Study 1a), which should, in turn, translate into enforcing a higher beauty tax on women in high power (but not low power) masculine occupations. In other words, SDO should have an indirect effect on the power penalty (i.e., increased appearance-related demands toward powerful vs. nonpowerful women) mediated by PBN endorsement. RWA was not expected to have this indirect effect. Finally, to validate our threat manipulation, we expected a SDO × Occupational Power interaction on affirmative action support, with SDO showing a stronger negative correlation to supporting affirmative action for women in high versus low power occupations.

Method

Participants. Participants were recruited by the Midgam Panel, an online research firm (see Pilot Study), in exchange for payment. A power analysis, as recommended by Vittinghoff, Sen, and McCulloch (2009), revealed that to detect a moderate regression coefficient ($\beta=.3$) for all direct relationships and the expected indirect effect at a significance level of $\alpha=.05$ and power of 80%, we needed 96 participants. Because we expected attrition between T1 and T2 (separated by 2 weeks, see below) we collected data from 144 participants (50% above the target sample size).

⁸ In Social Dominance Theory terms (Sidanius & Pratto, 1999), SDO represents a general motivation to maintain group-based hierarchy; PBN represents "a legitimizing myth" supporting group-based hierarchy in the particular context of gender relations; and a heightened "beauty tax" on powerful women represents a specific case of "aggregated individual" and "institutional" discrimination.

Participants first completed an attention check (Oppenheimer et al., 2009); only those who passed took part in the study. Eighteen participants who failed an additional attention check in the study itself were also excluded, yielding a final sample of 118 (60 women and 58 men, $M_{\rm age}=28.0$ years, range = 20–34). All participants were Israeli and secular; 49 were students and 69 were employed; native tongue was Hebrew for 108 and Russian for 10 participants.

Procedure. Participants were recruited (ostensibly) for two studies about "various social issues." In the "first" study, 12 items assessed SDO, $\alpha=.89$; 13 items assessed RWA, $\alpha=.70$ (the Hebrew version of RWA was successfully used by Rubinstein, 2006); 12 items measured beauty myth endorsement (bodily standards, $\alpha=.76$; grooming standards, $\alpha=.80$; attainability, $\alpha=.82$; the PBN, $\alpha=.67$); and eight new items measured condemnation of women who do not pursue beauty (e.g., "A woman who neglects her appearance should be ashamed of herself"; "When a woman neglects her appearance it conveys disrespect to others in her environment"; "I find it disgusting that some women totally neglect their appearance"; "Women who choose not to invest in their appearance do not harm anyone" – reverse-scored), $\alpha=.88$.

The "second" study, 2 weeks later, was presented as a survey about occupations in the Israeli job market. As in Study 3, participants first read about three main parameters for evaluating employees (intelligence, social skills, and presentable appearance) and then rated a list of 12 masculine occupations in randomized order—six relatively low and six relatively high in power. After responding to filler questions about intelligence and social skill requirements, participants indicated the money and time a female employee in each occupation should invest in her appearance each month as a professional duty; $\alpha = .90$ for low-power occupations, $\alpha = .93$ for high-power occupations. Next, participants indicated their support for gender-based affirmative action for each of the 12 occupations. Instructions read: "To what extent do you support or oppose government policies to encourage women's employment in each of the following occupations?"; 1 = opposing to a great extent to 7 = supporting to a great extent, α = .90, for the low-power occupations, $\alpha = .94$, for the high-power occupations. Finally, participants filled out demographic information (no other measures were included), were thanked and debriefed.

Results

Means, standard deviations, and correlations are provided in Table 8. As expected, there was a strong and significant correlation between the PBN and moral condemnation of women who fail to invest in their appearance, supporting that the PBN Scale assesses prescriptive beliefs.

Manipulation check for threat. We conducted a repeated-measures analysis of covariance with SDO as a continuous independent variable and occupational power (high vs. low) as a within-subjects factor on support for policies to encourage women's employment in these domains. We found a significant main effect for occupational power, F(1, 116) = 26.32, p < .001, $\eta_p^2 = .185$, such that participants showed greater support for policies to increase women's representation in high power (M = 6.25, SD = 1.10) as compared with low power (M = 5.72, SD = 1.30) occupations. This main effect probably reflects lesser perceived need for affirmative action in low (vs. high) power masculine occupations because of less severe gender imbalance.

The SDO main effect was also significant, F(1, 116) = 7.46, p = .007, $\eta_p^2 = .060$, such that SDO predicted less policy support. As expected, a significant SDO × Occupational Power interaction occurred, F(1, 116) = 5.44, p = .021, $\eta_p^2 = .045$. In particular, the negative association between SDO and policy support was non-significant for low-power occupations but significant for high power occupations: A regression model with SDO as predictor and policy support for low power occupations as the outcome failed to reach significance, F(1, 116) = 2.63, p = .108, $R^2 = .022$, $\beta_{\rm sdo} = -.149$. By contrast, the corresponding regression model with policy support for high power occupations as the outcome was significant, F(1, 116) = 14.32, p < .001, $R^2 = .110$, $\beta_{\rm sdo} = -.332$. These results suggest that high SDO individuals (who seek to preserve hierarchy) were threatened by women in high-power occupations.

Beauty tax on powerful women. Our main hypothesis was that SDO would be associated with stronger PBN endorsement and, in turn, a greater beauty tax on powerful, as compared with nonpowerful, women. We used the PROCESS macro (Model 4), to test the indirect effect of SDO on the power penalty (calculated as the difference between appearance-related investment demands for female employees in high vs. low power occupations) via PBN endorsement. The regression model with PBN as the outcome

Table 8
Means, Standard Deviations, and Correlations (Study 4)

Measures	M (SD)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) SDO	2.60 (1.16)								
(2) RWA	3.58 (.95)	.35**	_						
(3) PBN	2.52 (.97)	.38**	.34**	_					
(4) Moral condemnation	2.41 (1.05)	.45*	.48**	.67**	_				
(5) "Beauty tax" on low power occupations	2.30 (.89)	.12	.13	.19*	.05	_			
(6) "Beauty tax" on high power occupations	3.02 (1.21)	.09	$.18^{\dagger}$.24*	.13	.85**	_		
(7) Policy support - low status occupations	5.72 (1.30)	15	.08	01	16^{\dagger}	.03	05	_	
(8) Policy support - high status occupations	6.25 (1.10)	33*	11	18*	33**	09	11	.79**	_

Note. PBN = prescriptive beauty norm; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism. N = 118 participants. "Beauty tax" represents the appearance-related demands (required investment of time and money) from target employee. p = 1.8 m = 1.8 m

variable was significant, F(1, 116) = 19.11, p < .001, $R^2 = .14$. As expected, SDO significantly predicted PBN endorsement, $\beta = .316$, t = 4.37, p < .001. The regression model with power penalty as the outcome variable failed to reach significance, F(2, 115) = 2.34, p = .100, $R^2 = .04$. Yet, as expected, PBN significantly predicted the power penalty, $\beta = .144$, t = 2.16, p = .033. While the direct effect of SDO on the power penalty was nonsignificant, t = -.74, p = 461, the indirect effect of SDO on the power penalty through PBN endorsement was significant, 95% CI [.004, .099]. Note that rejecting the null hypothesis for the indirect effect is sufficient for establishing mediation (Preacher & Hayes, 2004), even when the total effect (in this case, SDO to power penalty relationship) fails to reach significance (that tends to occur as causal processes becomes more distal; Shrout & Bolger, 2002).

Additional analysis revealed that, in line with predictions, the indirect effect of SDO through PBN on the beauty tax toward women in high-power occupations was significant, 95% CI [.021, .203], whereas the corresponding indirect effect on the beauty tax" for low-power occupations was nonsignificant, 95% CI [-.007, .117]. Finally, a corresponding analysis (using PROCESS, Model 4) with RWA instead of SDO as the independent variable was nonsignificant for RWA's indirect effect on the power penalty via PBN endorsement, 95% CI [-.006, .094].

Discussion

Study 4 provided support for three of our claims. First, the moral condemnation scale's correlation with the PBN supported that the PBN measures endorsement of prescriptive, rather than merely descriptive, beauty norms. That is, the belief that women should heavily invest in appearance does not stem from realistic recognition of beauty's benefits; rather, it represents a moral conviction that women must not neglect their appearance. In this sense, the PBN resembles antifat attitudes, which do not reflect purely practical considerations (e.g., about health) but also moral condemnation of overweight people as lazy and undisciplined (Crandall, 1994).

Second, Study 4 revealed that PBN endorsement translates into enforcing a bigger beauty tax, that is, increased appearance-related demands, toward powerful women in masculine occupations. Third, we showed that PBN endorsement and the heightened beauty tax on powerful women reflect an underlying motivation to defend the gender hierarchy; that is, the PBN functions to put women "in their place"—people who endorse it discriminate more against women who threaten the gender hierarchy. That SDO ultimately led to taxing women in powerful positions provides more evidence that the power tax does not simply represent practical considerations. There is no reason to assume that low SDO participants should evaluate the benefits of appearance investment as lower than high SDO participants. Finally, RWA, a strong predictor of various sexist attitudes (Sibley, Wilson, et al., 2007), failed to predict PBN and the consequent power penalty supports our contention that the PBN stems from a dominance motive rather than a preservation of status quo motive.

An intriguing direction for future research would be to show that the SDO-PBN-power penalty chain is moderated by professional domain, occurring for traditionally masculine domains (as in Studies 3 and 4) but not for traditionally feminine HEED professions (Health care, Early Education, and Domestic roles; Croft, Schmader, & Block, 2015). We suspect that women who climb the professional ladder in traditionally female domains (e.g., a teacher who wants to be a school principal) would not be perceived as threatening men's power as long as they remain within the "pink-collar ghetto" (Stallard, Ehrenreich, & Sklar, 1983).

Study 5

We conducted Study 5 to increase external validity by testing whether the sexist motivation to maintain gender hierarchy would translate into imposing a higher beauty tax on high-power (vs. low-power) women among participants with experience conducting job interviewers. Participants were told the study examined how people evaluate information unique to face to face interviews, such as job candidates' nonverbal behaviors. To conceal the study's purpose, participants were asked both about appearance related behaviors (e.g., unkempt hair), and about other (filler) behaviors, which were not related to appearance (e.g., being late).

Using a within-subjects design, participants indicated the extent to which, in their opinion, various behaviors should disqualify candidates for entry-level and for senior executive positions. Participants completed a sexism measure disguised as a job attitudes scale at the end. We expected a two-way interaction, such that sexism would predict a stronger tendency to disqualify "insufficiently groomed" female candidates for high-power (vs. low-power) positions.

Method

Participants. Participants were recruited by an employee of the Israeli branch of a large international organization, chosen because current employees regularly interview new candidates. Potential participants responded to an ad posted in the organization's online ad board, asking them to participate in a quick online survey and forward the link to others who might be interested. Only respondents who indicated prior interviewing experience were allowed to participate. We did not have an a priori method for determining sample size—data collection ended when there were no new sign ups, resulting in a sample of 55 men and 45 women, $M_{\rm age} = 41$, SD = 13.35. A post hoc power analysis revealed that the power to detect the predicted effect at a significance level of $\alpha = .05$ was 52%. About half of the participants (43%) indicated that they had interviewed up to five job candidates during their career, and the rest (57%) had interviewed more than five. Almost all participants were Jewish (96%); most (83%) were married, and the rest were either single (15%) or divorced (2%).

Procedure. Participants who indicated that they had interviewed at least one job candidate during their career proceeded to the study. They were told that the study "examines how people evaluate the relative importance of information that can be learned only through face to face interviews, one of the most significant stages in the hiring process" and should report their own personal opinions, not what others may typically think or what human resource (HR) policies may deem important.

Next, they were asked to imagine they had just finished interviewing Noa (a common female Hebrew name), a candidate for an *entry level* position in their organization, and had to summarize their professional impressions. Following manipulation checks that verified they remembered the candidate was female and in-

terviewed for a junior position, participants indicated on a scale from 1 (does not affect my judgment at all) to 5 (severely affects my judgment—immediate disqualification) how important they personally found each of 11 problematic behaviors in job interviews. Seven filler behaviors were unrelated to appearance (e.g., "Noa was five minutes late," "Noa sat down without initiating a handshake," "Noa forgot to silence her cell phone and it rang during the interview"). Four additional behaviors were related to appearance maintenance ("It seemed that Noa did not check herself in the mirror and arrange her appearance before the interview," "Noa's shirt was wrinkled (had not been ironed)," "It seems as if the only thing that Noa cared about when planning her appearance was convenience (e.g., wearing sneakers or flip flops instead of dressy shoes)," and "Noa's hair was unkempt"), and were averaged to form the penalty measure toward the low-power candidate, $\alpha = .85.$

Next, participants responded to the same items, except they imagined having interviewed Ronit (another common female Hebrew name), a candidate for an *executive senior* position in their organization. The same appearance items were averaged to form the penalty measure for high-power candidates, $\alpha=.89$.

Finally, participants indicated their agreement with 12 statements, five were fillers ("Being late reflects disregard of the other person's time," "Sometimes a junior position can have farreaching influence inside an organization") and the rest constituted our sexism measure. We measured sexism at the end (instead of the beginning) to minimize the risk that participants would suspect the cover story. To further obscure that we were assessing sexism, we selected seven ASI items (four from the Hostile Sexism Scale, three from the Benevolent Sexism—one for each factor comprising it) that plausibly seemed related to workplace issues (e.g., "Women exaggerate problems they have at work," "Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for equality"), $\alpha =$.71. Despite its theoretical relevance, we could not measure SDO because its content was inconsistent with the cover story, and its blatant wording would not have been approved by the organization. Participants then completed demographic items and were thanked. No additional measures were included. Participants were debriefed via e-mail, after data collection was completed.

Results and Discussion

The correlation between the appearance penalty toward low-power women, M = 2.13, SD = .94, and high-power women, M = 2.93, SD = 1.04, was significant, r = .70, p < .001. Also, sexism, M = 2.91, SD = 1.04, significantly correlated with the penalty toward high-power women, r = .27, p < .006, but not toward low-power women, r = .14, p = .125.

To test our main hypothesis, we conducted a repeated-measures analysis of covariance on the appearance penalty, with sexism as a continuous independent variable, and occupational power (high vs. low) as a within-subjects factor. Inconsistent with Studies 3 and 4, the main effect for occupational power failed to reach significance, F(1, 98) = 2.71, p = .103. $\eta_p^2 = .027$, indicating that candidates for high-power positions were not penalized for "insufficient grooming" more than candidates for low-power positions. Similar to Study 3, the sexism main effect was significant, F(1, 98) = 5.37, p = .023, $\eta_p^2 = .052$, such that sexists generally

enforced higher penalties on female candidates who were not "sufficiently groomed."

The Sexism \times Occupational Power interaction was significant, F(1, 98) = 4.12, p = .045, $\eta_p^2 = .040$, indicating that the nonsignificant correlation between sexism and penalizing low-power women was indeed weaker than the significant correlation between sexism and penalizing high-power women. As another way to interpret the results, we computed the power penalty toward high versus low power targets; for sexist participants ($Z_{asi} = 1$ SD) the penalty on insufficiently groomed high-power versus low-power targets was .96, whereas for nonsexist participants ($Z_{asi} = -1$ SD) it was only .65.

In summary, Study 5 showed that sexist individuals with experience conducting actual job interviews in their organization penalized women for grooming missteps especially when those women sought powerful positions. Not only did Study 5 increase external validity and show the practical effects of the PBN on women's career opportunities, it did so using a new method (the interview faux pas), strengthening the conclusion that our findings are robust.

Nevertheless, Study 5 was statistically underpowered; future research should try to replicate our findings in additional organizational settings. Another limitation of Study 5 is that it did not examine appearance penalties toward men. We chose not to manipulate target's gender because grooming standards for men versus women are so different. Many grooming standards (e.g., makeup, manicured and painted nails, and jewelry) are exclusively (or almost exclusively) identified with women, such that even asking about them with regard to a male-target makes little sense. Further, even for grooming issues that apply to both men and women—such as having well-groomed hair—standards are likely more stringent for women than for men (e.g., gray hair may be considered a negative for women but not for men). We believe that using the same descriptors (e.g., unkempt hair) would result in sufficiently different images for male versus female targets that it would create apples to oranges comparisons. Thus, even though women report more appearance-related employment discrimination than men (e.g., Roehling, Roehling, & Pichler, 2007), the fundamental gap between the grooming standards expected from women versus men makes it difficult to compare these expectations and resulting discrimination using simple experimental paradigms.

Study 6

Study 6 tested whether the PBN represents a modern, subtle ideology aimed at maintaining the gender-hierarchy once support for more overt ideologies has largely crumbled (Wolf, 1990). Wolf alleged that the beauty myth replaced the traditional Feminine Mystique myth (Friedan, 1963) that women could and should self-actualize through domestic work (e.g., taking care of husbands and children), remaining as economically dependent housewives. Once the feminist movement challenged traditionalist views, Wolf suggests the beauty myth arose as an alternative ideology to serve the same function. She supported her claim by showing that magazine advertisements aimed at women progressively shifted away from domestic products (e.g., ovens and dishes) to beauty products (e.g., make up and plastic surgeries).

In Study 6 we sought more direct evidence for Wolf's "replacement" claim, taking advantage of the social context in which we conducted our research—Israeli society. About half of the Jewish population in Israel is Hiloni (secular) and the rest belongs to various religious sectors, including Haredi (ultra-Orthodox), Dati (religious), and Masorti (traditional; Pew Research Center, 2016).

These various Orthodox sects in Israel have differing genderrelated practices. For example, women are excluded from running for political office in two religious parties, but not in a third one. Nevertheless, all Orthodox sects use norms that inhibit women's power and visibility in the public sphere while confining them to the domestic sphere (Shalvi, 2002). For example, women's credibility as witnesses is severely limited in Jewish law and they are prevented from suing for divorce (Adler, 1999). Religious soldiers' refusal to obey the orders of a female parachute instructor (Kubovich, 2018) represents a recent example of restricted gender norms grounded in religious values. Recruiting a relatively diverse sample in terms of religiosity allowed us to compare PBN endorsement between individuals who remain committed to traditional orthodox values to those who consider themselves secular and embrace contemporary Western values. We reasoned that, if Wolf's thesis is correct, then as traditionalists, religious Jews should not exhibit the correlation between SDO and PBN observed in Study 1a (in which all participants were secular) because they have no need to turn to this more contemporary ideology to subordinate women.

In summary, Study 6 was correlational, testing the hypothesis that Jewish participants' religiosity would moderate the association between SDO and PBN endorsement. However, even if the predicted moderation occurred, an alternative explanation might be that SDO failed to correlate with PBN endorsement among religious participants because of religious strictures that condemn pursuing beauty; for example, the biblical proverb stating that "charm is deceitful, and beauty is vain." To rule out this alternative, we tested whether the expected SDO \times Religiosity interaction persisted after controlling for moral condemnation of beauty pursuit.

Method

Participants. Participants were recruited by two RAs with an Orthodox Jewish religious background to participate voluntarily in an online study about "social attitudes." The RAs' social networks included both religious and secular individuals, allowing for a relatively diverse sample in terms of religiosity. The RAs sent emails to their acquaintances, asking them to take part in the study and forward the link to other people whom they know. They also posted a link to the survey in relevant online sites (e.g., Facebook). Participants first completed an attention check (Oppenheimer et al., 2009); only those who passed completed the study.

A priori power analysis revealed that for detecting a large interaction effect ($f^2 = .025$, according to Kenny's [2014] guidelines) at a significance level of $\alpha = .05$ and power of 80%, we had to collect data from at least 316 participants. Data was collected in two waves (Ns = 173 and 194), in subsequent academic years. In both waves, data collection was stopped when there were no new sign ups. Because we peeked at the data after the first wave of data collection (to verify that the pattern is in the expected direction) we

report the key results for both the initial and full samples, as well as the $p_{\rm augmented}$ statistic.

The final sample included 367 participants, 189 women and 178 men, $M_{\rm age}=36.81$ years, range = 19–56. In terms of religiosity, about half of the participants (48.2%) were secular, and the other half (51.8) were Orthodox Jews. We had no participants who identified as Reform or Conservative—non-Orthodox streams in Judaism, which defy patriarchal values and practices. Because of cultural sensitivity considerations, we refrained from asking about particular affiliation within Orthodox Judaism. Also, 48 participants were students, 234 were employed in various occupations, and 85 had a different status (e.g., unemployed, freelance, enrolled in a Yeshiva); native tongue was Hebrew for 241 participants, Russian for 115, and other for 11 participants; in terms of relationship status, 254 participants were married, 93 were single, and the rest had another status.

Procedure. Participants volunteered to participate in a brief online study about social attitudes. Following the attention check, participants completed the beauty myth scale, $\alpha_{bodily.standards} = .78$, $\alpha_{grooming.standards}$ = .83, $\alpha_{attainability.beliefs}$ = .74, α_{PBN} = .63; SDO, measured with 10 items (reflecting both the preference for social hierarchy and for social equality—reverse scored), $\alpha = .82$; moral condemnation toward women who pursue beauty (measured with four items; e.g., "Women who invest a lot in physical appearance are selfish," "A woman with good values does not focus on her physical appearance"), $\alpha = .87$; and the Religious Commitment Inventory—10 (RCI—10; Worthington et al., 2003). The RCI-10 is a 10-item measure (using a 1 = not at all true of me to 5 = totally true of me scale) that captures individuals' adherence to their religious values, beliefs, and practices, as well as the extent to which they observe them in everyday life (e.g., "I spend time trying to grow in the understanding of my faith"; "I enjoy working in the activities of my religious affiliation"). This measure has been successfully translated into Hebrew in prior research (Vishkin, Schwartz, Ben-Nun Bloom, Solak, & Tamir, in press); $\alpha =$

For exploratory purposes we also measured participants' sexism using a shortened version of the ASI (seven hostile sexism and seven benevolent sexism items), $\alpha = .87$, and moral condemnation toward women who do not pursue beauty (using five items taken from Study 4), $\alpha = .89$. Upon completion, participants were thanked and debriefed.

Results and Discussion

Means, standard deviations, and correlations between all variables (main and exploratory) are provided in Table 9. As seen in the table, in line with our assumption that religiosity is associated with norms that limit women, religiosity significantly correlated with sexism. Religiosity was not associated with PBN endorsement or the other beauty myth components. To test our main hypothesis, we conducted a regression analysis in which SDO (standardized), religiosity (standardized) and their two-way interaction were entered as predictors, with PBN as the outcome variable. The regression model was significant, F(3, 363) = 6.42, p < .001, $\Delta R^2 = .050$. Specifically, SDO had a significant effect on PBN, $\beta = .189$, t = 3.68, p < .001, whereas religiosity did not, $\beta = -.065$, t = -1.26, p = .209. The Religiosity \times SDO interaction was significant, $\beta = -.114$, t = -2.25, p = .027. A

Table 9
Means, Standard Deviations, and Correlations for Key and Exploratory Variables (Study 6)

Measures	M(SD)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) SDO	2.72 (1.08)									
(2) Religiosity	2.46 (1.26)	.043	_							
(3) Bodily-related standards	3.44 (1.22)	.136**	.027	_						
(4) Grooming standards	2.84 (1.22)	.181**	044	.353**						
(5) Attainability	3.82 (1.09)	.053	025	.116*	.420**	_				
(6) Prescriptive beauty norm (PBN)	2.91 (1.00)	.182**	056	.312**	.545**	.452**	_			
(7) Moral condemnation of beauty pursuit as vain	2.36 (1.02)	.269**	.158**	.064	.010	121**	093	_		
(8) Moral condemnation of "insufficient" grooming	2.82 (1.17)	.332**	.050	.316**	.276**	.158**	.395**	.274**	_	
(9) Sexism (ASI)	3.49 (.92)	.262**	.286**	.313**	.262**	.184**	.311**	.276**	.426**	_

Note. SDO = Social Dominance Orientation; ASI = Ambivalent Sexism Inventory. N = 367. *p < .05. **p < .01.

simple slopes analysis, using Preacher et al.'s (2006) calculator, revealed that SDO predicted PBN endorsement among participants relatively low in religiosity, Zreligiosity = -1, simple slope = .295, t = 4.17, p < .001, but not among participants high in religiosity, Zasi = 1, simple slope = .081, t = 1.15, p = .253. Note that in the initial sample (N = 173) the Religiosity \times SDO interaction was also significant, $\beta = -.146$, t = 2.00, p = .047; $p_{\text{ausmented}}$ [.050, .064], and generally took the same form.

As seen in Table 9, religiosity was indeed associated with the moral condemnation of women's beauty pursuit as vain and reflecting poor values. Nevertheless, when controlling for moral condemnation of beauty pursuit, the regression model remained significant, F(4, 362) = 7.09, p < .001, $\Delta R^2 = .072$, and consistent with the original analysis—the effect of SDO on PBN was significant, $\beta = .230$, t = 4.36, p < .001, whereas the effect of religiosity was not, $\beta = -.042$, t = -.81, p = .419, and the religiosity \times SDO interaction persisted, $\beta = -.124$, t = -2.44, p = .015. Not surprisingly, condemnation of beauty pursuit as vanity negatively predicted PBN endorsement, $\beta = -.155$, t = -2.91, p = .004. In summary, the SDO \times Religiosity interaction in predicting the PBN (i.e., SDO predicted PBN only among secular participants) remained significant after including condemnation of beauty pursuit, ruling out this "third variable" as an alternative explanation.

The results of Study 6 are consistent with a pivotal principle in cross-cultural research (e.g., van de Vijver & Tanzer, 1997) that cultural values can moderate whether or not constructs (in this case, SDO and the PBN) are associated with each other. Admittedly, Study 6 was limited by relying on a convenience snowball sample, which may raise concerns about the population it represents. Nevertheless, our purpose was not to estimate parameters in the general population (e.g., the percentage of Israeli citizens for whom SDO is associated with PBN endorsement). Rather, our goal was to expose how orthodox religious values moderate the relationship between SDO and PBN. While Study 6 focused on Orthodox Jews, future research should test whether our hypothesis holds among members of other religious traditions.

General Discussion

Women have long been prescribed to pursue beauty (e.g., Wollstonecraft, 1792), but according to Wolf (1990) beauty pressures have substantially intensified following feminism's second wave.

The present research tested this contention and developed a systematic social psychological model. We distinguished conceptually between beauty myth components to highlight the hierarchyenforcing aspects of one: the PBN. Six studies specified mediators, moderators, and outcomes (e.g., employment discrimination) related to the PBN.

Specifically, we identified three beauty myth components: female beauty standards (body features and grooming practices); belief that the standards are attainable; and a prescriptive norm that women should intensively strive to attain beauty (the PBN). Study 1 revealed that the PBN, not belief in beauty's attainability or beauty standards, uniquely correlates with sexist attitudes (both hostile and benevolent), preference for social hierarchy (SDO), and power values (valuing dominance/submission as an organizing principle in social life).

In line with the notion that PBN endorsement reflects backlash against challenges to gender hierarchy, in Study 2 sexist individuals showed increased PBN endorsement when gender roles were threatened, a response mediated by increased prioritizing of power (but not conservation) values. Study 3 further supported the backlash hypothesis using a different kind of threat (women in powerful, masculine occupations) and a different dependent measure, to reveal that sexists enforce a beauty tax (i.e., imposition of jobrelated appearance demands) on powerful women (as compared with low-power women or powerful men). Further establishing hierarchy maintenance as the motivation behind PBN endorsement and enforcement, Study 4 found a significant indirect effect of SDO on an increased beauty tax on female professionals in highpower occupations, mediated through PBN endorsement. The indirect effect of RWA on the beauty tax through PBN was nonsignificant, ruling out the desire to keep "the way things are," as an alternative motivation.

Study 5 revealed the beauty-based power penalty among people who conduct actual job interviews: sexist (more than nonsexist) interviewers were more likely to penalize female candidates for high-power jobs for insufficient grooming. Study 6 showed that SDO does not relate to endorsing the PBN among people who endorse orthodox religious values that sharply limit women's roles (Shalvi, 2002), supporting Wolf's idea that the beauty myth represents an alternative means to control women once traditional ideologies diminished in Western societies.

In summary, we consistently found evidence that the PBN (a) reflects hierarchy-enhancing motives which translate into the social policing of women behavior, and (b) results in a beauty tax that specifically targets women who threaten gender hierarchy. Although backlash toward dominant women has been thoroughly investigated (Rudman et al., 2012; see also Berdahl, 2007 for sexual harassment against "uppity" women), to the best of our knowledge, the present research provides the first experimental demonstrations that threats to gender hierarchy cause an increased emphasis on women's appearance; namely, enforcement of the PBN and, consequently, a beauty tax in workplace settings. That both women and men who endorse sexism or hierarchy-enhancing beliefs showed beauty-related backlash is consistent with the notion that subordinate group members (especially women, because of their interdependence with men) actively cooperate with the dominant group to maintain existing, unequal arrangements (Glick & Fiske, 2001; Jackman, 1994; Jost & Kay, 2005; Sidanius & Pratto, 1999).

While much social psychological research on women's beauty duties has focused on the target's perspective, such as women's experience of body shame when trying on a swimsuit (Fredrickson et al., 1998) or even in response to appearance compliments (Tiggemann & Boundy, 2008), our research is the first to examine the other side of the coin, namely, the motivational and ideological underpinning of social norms that pressure women to be appearance-focused. Our findings support the idea that endorsement and enforcement of appearance pressures in Western society underpin and exacerbate gender inequality by reducing women to objects to be looked at and evaluated based on their appearance (Bartky, 1990). Cultural norms that objectify women lead women to view their bodies from an external perspective, known as self-objectification (Fredrickson & Roberts, 1997), which impairs women's well-being and predicts a host of negative consequences, including depression, disordered eating and sexual dysfunctions (see Calogero, Tantleff-Dunn, & Thompson, 2011; Moradi & Huang, 2008). The societal evaluation, criticism, and prescriptions regarding women's appearance encapsulated in the PBN seem likely to be a distal cause of self-objectification and its negative psychological consequences.

Limitations and Future Directions

The present research did not examine intersectionality between gender and other social categories (e.g., ethnicity, class, religion, race, or sexual orientation). Specifically, the PBN measure refers to "women" as a general group, and the measures used in Studies 3-5 refer to a generic female employee without specifying or varying targets' ethnicity, race, and so forth. Intersectionality theorists criticize mainstream psychological research for subsuming women into a homogeneous category and, thus, overlooking "the mutually constitutive relations among social identities" (Shields, 2008, p. 301). Future research should explore potential intersectional effects; for example, is the beauty tax enforced more strongly against minority or majority women? On the one hand, powerful minority women may be viewed as a bigger threat to the current hierarchy, possibly leading people invested in preserving gender hierarchy to impose a higher beauty tax on them. On the other hand, minority women are relatively "invisible" (Purdie-Vaughns & Eibach, 2008) and may, therefore, face less intense

appearance demands than majority women. This possibility is consistent with research showing that minority women were less likely to experience backlash for nonfeminine behaviors than majority women (Livingston, Rosette, & Washington, 2012). Future research should directly explore such comparisons.

Future research should also examine women's responses to appearance pressures by others in their social and occupational environment. Do women comply with the PBN to a greater extent (e.g., invest more in appearance) when they anticipate backlash (e.g., when promoted to a high power, masculine position)? This possibility is suggested by findings that women present themselves as more gender-conforming when they fear backlash for stereotype-violating behavior (Rudman & Fairchild, 2004). Experimental research could also identify ways to minimize backlash by examining the efficacy of different responses female targets might use to confront attempts to police their appearance.

Building on Study 6, another intriguing direction for future research would be a comparative cross-cultural study to test the link between sexism and PBN endorsement. Previous crosscultural research by Glick et al. (2000), in both Western and non-Western countries, found an association between average sexism scores on the ASI and United Nations indices of national gender equality (e.g., the Gender Empowerment Measure). The present research suggests that the link between sexism and the PBN should be stronger in countries with greater national gender equality, where women are more empowered and traditional forms of sexism are relatively low. Notably, previous cross-cultural studies on beauty norms have focused on ideal beauty standards; for example, revealing that food shortage risk (Anderson, Crawford, Nadeau, & Lindberg, 1992) and economic indicators of "hard times" (Pettijohn & Jungeberg, 2004) correlate with preferring heavier women. Yet, examining prescriptive norms about the importance of women's beauty duties, regardless of their particular content (e.g., thin vs. curvy), can shed light on whether these norms reflect a backlash to women's empowerment in a given society. Additionally, cross-cultural research would test generalizability of the current findings obtained in Israeli samples.

Finally, future research could examine the interplay between the social pressure on women to pursue beauty on the one hand, and the condemnation of such pursuit as selfish and vain on the other hand (Wolf, 1990). This ambivalent message is similar, according to Wolf (1997), to contemporary message about women's sexuality; although seemingly celebrated in modern culture, women still face moral condemnation for expressing their sexuality (e.g., slut shaming; Vaillancourt & Sharma, 2011). Possibly, "damned if you do damned if you don't" prescriptions (i.e., punishing women for not investing in beauty, but condemning them as vain when they do) helps to mask the PBN's powerful effects on women's lives by trivializing beauty duties despite the immense resources invested in them (Rhode, 2010).

Conclusion

We have shown that the PBN, more than other beauty myth beliefs, represents a hierarchy-enhancing norm undergirded by resistance to changes in gender hierarchy. Like other forms of backlash, which women implicitly understand and seek to avoid by conforming to gender norms (Rudman et al., 2012), the PBN may restrict women's behavior and, thus, undermine progress toward gender equality in

several ways. First, conforming to the PBN requires investing substantial time, money, and effort, which inevitably comes at the expense of other life goals (Rhode, 2010). Second, appearance pressures increase women's self-objectification, which decreases their psychological well-being (Moradi & Huang, 2008), cognitive performance (e.g., Kahalon, Shnabel, & Becker, 2018), and engagement in collective action to combat gender inequality (Calogero, 2013). Third, appearance pressures relegate women to the role of sex objects (Jeffreys, 2005), which undermines perceptions of their competence (Heflick & Goldenberg, 2009). Thus, the PBN may undermine women's motivation and ability to achieve power, status, resources, and independence. Further, even if some women escape these self-imposed pressures, they nevertheless face appearance-based discrimination when seeking high powered roles.

As compared with overt chastity restrictions on women's appearance (e.g., covering the head, face, or body) common in gender-traditional societies, the PBN represents a more subtle way to restrict women in societies that claim to value gender equality. The PBN provides a goal and promised rewards for those who intensively pursue beauty (rather than, e.g., threatening violence toward women who fail to conform to modesty-based appearance restrictions). Women have the apparent choice to pursue beauty or not, so that appearance demands seem more benign, even a celebration of feminine beauty. Yet, a pervasive PBN establishes reward contingencies that become psychologically coercive (Grabe, 2013). When prescriptive beauty norms are strongly and widely endorsed, women risk moral condemnation should they ignore the drastic discipline these norms demand. Those who comply may reap some social benefits, but only by complying with a system in which people more strongly weigh appearances when evaluating women as compared with men.

Understanding the PBN's motivational underpinnings can increase public awareness of how beauty demands retard progress toward gender equality, motivating change efforts. For example, at the societal level, legislation against appearance-based discrimination can insulate women from discriminatory effects (Rhode, 2010). At the individual level, understanding the beauty tax as discriminatory may lead women to resist, rather than embrace, normative pressures to pursue beauty at all costs. Indeed, protests scuttled El-Al's discriminatory attempt to require female flight attendants to wear high heels (Ben-Or, 2015) and a similar social media protest led the British parliament to consider a law forbidding businesses from making sexist appearance demands (Bilefsky, 2017). Our results provide empirical evidence supporting the importance of efforts to resist the siren call of beauty prescriptions.

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